

# References

## *Textbooks*

1. Adams, D.R.: Morrey Spaces. Lecture Notes in Applied and Numerical Harmonic Analysis. Birkhäuser/Springer, Cham (2015)
2. Adams, D.R., Hedberg, L.I.: Function Spaces and Potential Theory. Grundlehren der Mathematischen Wissenschaften, vol. 314 Springer, Berlin (1996)
3. Adams, D.R.: Sobolev Spaces. Pure and Applied Mathematics, A Series of Monographs and Textbooks, vol 65. Academic Press, New York/San Francisco/London (1975)
4. Adams, R.A., Fournier, J.J.F.: Sobolev Spaces. Pure and Applied Mathematics, V, vol 140, 2nd edn. Elsevier/Academic Press, New York (2003)
5. Auscher, P., Tchamitchian, P.: Square root problem for divergence operators and related topics. *Astérisque* **249**, viii+172 (1998)
6. Bahouri, H., Chemin, J.-Y., Danchin, R.: Fourier Analysis and Nonlinear Partial Differential Equations. Springer, Berlin/Heidelberg (2011)
7. Bergh, J., Löfström, J.: Interpolation Spaces. An Introduction. Grundlehren der Mathematischen Wissenschaften, vol. **223**. Springer, Berlin/New York (1976)
8. Besov, O.V., Il'in, V.P., Nikol'ski'i, S.M.: Integral Representations of Functions and Imbedding Theorems, vol. I+II. V. H. Winston and Sons, Washington, DC (1978, 1979). Translated from the Russian. Scripta Series in Mathematics, Edited by Mitchell H. Taibleson, Halsted Press [John Wiley and Sons], New York/Toronto/London (1978). viii+345pp
9. Burenkov, V.I.: Sobolev Spaces on Domains. Teubner-Texte zur Mathematik [Teubner Texts in Mathematics], vol. 137, 312pp. B. G. Teubner Verlagsgesellschaft mbH, Stuttgart (1998)
10. Bennett, C., Sharpley, R.: Interpolation of Operators. Academic Press, Boston (1988)
11. Brudnyi, Y.A., Krugljak, N.: Interpolation Functors and Interpolation Spaces, vol. I. Translated from the Russian by Natalie Wadhwa. With a preface by Jaak Peetre. North-Holland Mathematical Library, vol. 47, xvi+718pp. North-Holland Publishing Co., Amsterdam (1991)
12. Bourdaud, G.: The functional calculus in Sobolev spaces. In: Function Spaces, Differential Operators and Nonlinear Analysis. Teubner-Texte Math., vol. 133, pp. 127–142. Teubner, Stuttgart/Leipzig (1993)
13. Caetano, A., Hewett, D.P., Moiola, A.: Density Results for Sobolev, Besov and Triebel-Lizorkin Spaces on Rough Sets. In preparation

14. Cannone, M.: *Ondelettes, Paraproducts et Navier–Stokes*, Diderot Editeur. Arts et Sciences, Paris/New York/Amsterdam (1995)
15. Coifman, R.R., Weiss, G.: *Analyse Harmonique Non-Commutative sur Certains Espaces Homogènes*. *Lecture Notes in Mathematics*, vol. 242. Springer, Berlin (1971)
16. Cruz-Uribe D.V., Fiorenza, A.: *Variable Lebesgue Spaces: Foundations and Harmonic Analysis*. *Applied and Numerical Harmonic Analysis*. Birkhäuser/Springer, Heidelberg (2013)
17. Daubechies, I.: *Ten Lectures on Wavelets*. *CBMS-NSF Regional Conference Series in Applied Mathematics*, vol. 61. Society for Industrial and Applied Mathematics (SIAM), Philadelphia (1992)
18. David, G.: *Wavelets and Singular Integrals on Curves and Surfaces*. *Lecture Notes in Mathematics*, vol. 1465. Springer, Berlin/New York (1991)
19. DeVore, R., Lorentz, G.G.: *Constructive Approximation*. *Grundlehren der Mathematischen Wissenschaften*, vol. 303. Springer, Berlin (1993)
20. Diening, L., Harjulehto, P., Hästö, P., Růžička, M.: *Lebesgue and Sobolev Spaces with Variable Exponents*. *Lecture Notes in Mathematics*, vol. 2017. Springer, Berlin (2011)
21. Dunford, N., Schwartz, J.: *Linear Operators. Part I. General Theory*. With the assistance of William G. Bade and Robert G. Bartle, Reprint of the 1958 original. *Wiley Classics Library*. A Wiley-Interscience Publication. Wiley, New York (1988)
22. Duoandikoetxea, J.: *Fourier Analysis*. Translated and revised from the 1995 Spanish original by D. Cruz-Uribe. *Graduate Studies in Mathematics*, vol. 29. American Mathematical Society, Providence (2001)
23. Edmunds, D.E., Triebel, H.: *Function Spaces. Entropy Numbers and Differential Operators*. Cambridge University Press, Cambridge (1996)
24. Edwards, R.E., Gaudry, G.I.: *Littlewood–Paley and Multiplier Theory*. Springer, Berlin (1977)
25. Evans, C.: *Partial Differential Equations*. *Graduate Studies in Mathematics*, vol. 19, American Mathematical Society, Providence (1998)
26. Federer, H.: *Geometric Measure Theory*. *Die Grundlehren der mathematischen Wissenschaften*, vol. 153. Springer, New York (1969)
27. Folland, G.B., Stein, E.M.: *Hardy Spaces on Homogeneous Groups*. *Mathematical Notes*, vol. 28. Princeton University Press/University of Tokyo Press, Princeton/Tokyo (1982)
28. Frazier, M.: *The  $T1$  Theorem for Triebel–Lizorkin Spaces*. *Harmonic Analysis and Partial Differential Equations*. *Lecture Notes in Mathematics*, vol. 1384, pp. 168–191. Springer, Berlin (1987)
29. Frazier, M., Jawerth, B., Weiss, G.: *Littlewood–Paley Theory and the Study of Function Spaces*. *CBMS Regional Conference Series in Mathematics*, vol. 79. Published for the Conference Board of the Mathematical Sciences, Washington, DC. American Mathematical Society, Providence (1991)
30. Garling, D.J.H.: *Inequalities: A Journey into Linear Analysis*. Cambridge University Press, Cambridge (2007)
31. García-Cuerva, J., Rubio de Francia, J.L.: *Weighted Norm Inequalities and Related Topics*. *North-Holland Mathematics Studies*, vol. 116. North-Holland, Amsterdam/New York (1985)
32. Grafakos, L.: *Classical Fourier Analysis*. *Graduate Texts in Mathematics*, vol. 249. Springer, New York (2008)
33. Grafakos, L.: *Modern Fourier Analysis*. *Graduate Texts in Mathematics*, vol. 250. Springer, New York (2009)
34. Gelbaum, B.R., Olmsted, J.M.H.: *Counterexamples in Analysis*, Corrected reprint of the second (1965) edition, xxiv+195pp. Dover Publications, Mineola (2003)
35. Gröchenig, K.: *Foundations of Time-Frequency Analysis*. *Applied and Numerical Harmonic Analysis*. Birkhäuser, Boston (2001)
36. Haroske, D.D.: *Envelopes and Sharp Embeddings of Function Spaces*. *Chapman & Hall/CRC Research Notes in Mathematics*, vol. 437, x+227pp. Chapman & Hall/CRC, Boca Raton (2007)

37. Haroske, D.D., Triebel, H.: Distributions, Sobolev Spaces, Elliptic Equations. EMS Textbooks in Mathematics, x+294pp. European Mathematical Society (EMS), Zurich (2008)
38. Heinonen, J.: Lectures on Analysis on Metric Spaces. Universitext. Springer, New York (2001)
39. Heinonen, J., Koskela, P., Shanmugalingam, N., Tyson, J.: Sobolev Spaces on Metric Measure Spaces: An Approach Based on Upper Gradients. New Mathematical Monographs. Cambridge University Press, Cambridge (2015)
40. Hernández, E., Weiss, G.: A First Course on Wavelets. CRC Press, Boca Raton (1996)
41. Holschneider, M.: Wavelets. An Analytic Tool. Clarendon Press, Oxford (1995)
42. Hörmander, L.: Linear Partial Differential Operators. Springer, Berlin/Göttingen/Heidelberg (1962)
43. Igari, S.: Real Analysis: With an Introduction to Wavelet Theory. Translated by S. Igari, Translations of Mathematical Monographs, vol. 177. American Mathematical Society, Providence (1998)
44. Lebesgue, H.: Lecons sur l'Integration et la Recherche des Fonctions Primitives. Gauthier-Villars, Paris. Available online at <http://www.archive.org/details/LeconsSurLintegration> (1904)
45. Kato, T.: Ryoshirikigakuno Suugaku Riron edited by Kuroda, S. (in Japanese). Kindai Kagakusha
46. Katznelson, Y.: An Introduction to Harmonic Analysis. Cambridge University Press, Cambridge/New York (2004)
47. Krasnosel'skii, M., Rutickii, Y.: Convex Functions and Orlicz Spaces. P. Noordhoff, Groningen (1961)
48. Krantz, S.G.: Function Theory of Several Complex Variables. The Wadsworth & Brooks/Cole Mathematics Series, 2nd edn. Pacific Grove: Wadsworth & Brooks/Cole Advanced Books & Software (1992)
49. Jonsson, A., Wallin, H.: Function Spaces on Subsets of  $\mathbb{R}^n$ , xiv + 221pp. Mathematical Report Series, vol. 2(1). Harwood Academic, Chur (1984)
50. Jost, J.: Riemannian Geometry and Geometric Analysis, 5th edn. Springer, Berlin/New York. ISBN:978-3-540-77340-5
51. Kufner, A.: Weighted Sobolev Spaces. Teubner-Texte zur Mathematik, vol. 31. Teubner, Leipzig (1980)
52. Kufner, A., John, O., Fučík, S.: Function Spaces. Academia, Publishing House of the Czechoslovak Academy of Sciences, Prague (1977)
53. Lions, J.L., Magnes, E.: Problèmes aux limites non homogènes et applications I and II. Dunod, Paris (1968)
54. Lu, S., Yang, D., Hu, G.: Herz Type Spaces and Their Applications. Science Press, Beijing (2008)
55. Lunardi, A.: Analytic Semi-groups and Optimal Regularity in Parabolic Problems. Progress in Nonlinear Differential Equations and Their Applications, vol. 16. Birkhäuser, Basel (1995)
56. Lunardi, A.: Interpolation Theory, 2nd edn. Appunti. Scuola Normale Superiore di Pisa, Edizioni della Normale, Pisa (2009)
57. Maz'ya, V.G.: Sobolev Spaces. Springer Series in Soviet Mathematics. Springer, Berlin (1985). Translated from the Russian
58. Maz'ya, V.G., Shaposhnikova, T.O.: Theory of Sobolev Multipliers with Applications to Differential and Integral Operators for a Description of the Set of All Pointwise Multipliers  $M(B_{p,p}^s)$ . Springer, Berlin (2009)
59. McLean, W.: Strongly Elliptic Systems and Boundary Integral Equations, xiv+357pp. Cambridge University Press, Cambridge (2000)
60. Megginson, R.: An Introduction to Banach Space Theory. Graduate Texts in Mathematics, vol. 183. Springer, New York (1998)
61. Kokilashvili, V., Meskhi, A., Rafeiro, H., Samko, S.: Integral Operators in Non-standard Function Spaces. Operator Theory: Advances and Applications (2017)

62. Mattila, P.: *Geometry of Sets and Measures in Euclidean Spaces Fractals and Rectifiability*. Cambridge University Press, Cambridge (2016)
63. Meyer, Y.: Régularité des solutions des équations aux dérivées partielles non linéaires (d'après J.-M. Bony). (French) [Regularity of the solutions of nonlinear partial differential equations (according to J. M. Bony)] Bourbaki Seminar, vol. 1979/80, pp. 293–302. *Lecture Notes in Mathematics*, vol. 842. Springer, Berlin/New York (1981)
64. Meyer, Y.: *Wavelets and Operators*. Translated by D.H. Salinger, *Cambridge Studies in Advanced Mathematics*, vol. 37. Cambridge University Press, Cambridge (1992)
65. Meyer, Y.: *Wavelets, Vibrations and Scalings*. CRM Monograph Series, vol. 9. AMS, Providence (1997)
66. Meyer, Y., Coifman, R.R.: *Calderón–Zygmund and Multilinear Operators*. Translated by D.H. Salinger, *Cambridge Studies in Advanced Mathematics*, vol. 48. Cambridge University Press, Cambridge (1997)
67. Murai, T.: *A Real Variable Method for the Cauchy Transform, and Analytic Capacity*. *Lecture Notes in Mathematics*, vol. 1307. Springer, Berlin (1988)
68. Muscalu, C., Schlag, W.: *Classical and Multilinear Harmonic Analysis*, vol. II. Cambridge University Press, Cambridge (2013)
69. Nikolski'i, S.M.: *Approximation of Functions of Several Variables and Imbedding Theorems*, 2nd edn. (Russian) Nauka, Moskva (1977). (English translation of the first edition: Springer, Berlin/Heidelberg/New York, 1975)
70. Peetre, J.:  *$H^p$ -Spaces*. *Lecture Notes*. University of Lund, Lund (1974)
71. Peetre, J.: *New Thoughts on Besov Spaces*. *Duke University Mathematics Series*, vol. I. Mathematics Department, Duke University, Durham (1976)
72. Pick, L., Kufner, A., John, O., Fučík, S.: *Function Spaces*. *De Gruyter Series in Nonlinear Analysis and Applications*, vol. 14, extended edn. Walter de Gruyter Co., Berlin (2013)
73. Rădulescu, V.D., Repovš, D.D.: *Partial Differential Equations with Variable Exponents*. Taylor and Francis, Boca Raton/London/New York (2015)
74. Rao M.M., Ren Z.D.: *Theory of Orlicz Spaces*. *Monographs and Textbooks in Pure and Applied Mathematics*, vol. 146. Marcel Dekker Inc., New York (1991)
75. Raymond, X.S.: *Elementary Introduction to the Theory of Pseudodifferential Operators*. *Studies in Advanced Mathematics*, viii+108pp. CRC Press, Boca Raton (1991)
76. Reiter, H.: *Classical Harmonic Analysis and Locally Compact Groups*. Oxford University Press, Oxford (1968)
77. Rochberg, R., Tabacco, V.A., Vignati, M., Weiss, G.: Interpolation of quasinormed spaces by the complex method. In: “Function Spaces and Applications”. *Proceedings of the Conference, Lund, 1986*. *Lecture Notes in Mathematics*, vol. 1302, pp. 91–98. Springer, Berlin (1988)
78. Runst, T., Sickel, W.: *Sobolev Spaces of Fractional Order, Nemytskii Operators, and Nonlinear Partial Differential Equations*. *de Gruyter Series in Nonlinear Analysis and Applications*, vol. 3. Walter de Gruyter Co., Berlin (1996)
79. Ružička, M.: *Electrorheological Fluids: Modeling and Mathematical Theory*. *Lecture Notes in Mathematics*, vol. 1748. Springer, Berlin (2000)
80. Schmeisser, H.J., Triebel, H.: *Topics in Fourier Analysis and Function Spaces*. Wiley, Chichester (1987)
81. Schwartz, L.: *Théorie des Distributions*. Hermann, Paris (1950)
82. Schwartz, L.: *Théorie des Distributions*. Hermann, Paris (1951)
83. Sickel, W.: On pointwise multipliers in Besov–Triebel–Lizorkin spaces. In: “Seminar Analysis Karl-Weierstrass Institute 1985/86,” *Teubner-Texte Math.*, vol. 96, pp. 45–103. Teubner, Leipzig (1987)
84. Skrzypczak, L.: *Anisotropic Sobolev Spaces on Riemannian Symmetric Manifolds*. *Function Spaces (Poznań, 1989)*. *Teubner-Texte Math.*, vol. 120, pp. 252–264. Teubner, Stuttgart (1991)
85. Stein, E.M.: *Singular Integral and Differential Property of Functions*. Princeton University Press, Princeton (1970)

86. Stein, E.M.: *Harmonic Analysis: Real-Variable Methods, Orthogonality, and Oscillatory Integrals*. Princeton University Press, Princeton (1993)
87. Stein, E.M., Shakarchi, R.: *Fourier Analysis. An Introduction*. Princeton Lectures in Analysis, vol. 1. Princeton University Press, Princeton (2003)
88. Stein, E.M., Shakarchi, R.: *Real Analysis, Measure Theory, Integration, and Hilbert Spaces*. Princeton Lectures in Analysis, vol. 3. Princeton University Press, Princeton (2005)
89. Stein, E.M., Shakarchi, R.: *Functional Analysis. Introduction to Further Topics in Analysis*. Princeton Lectures in Analysis, vol. 4. Princeton University Press, Princeton (2011)
90. Stein, E.M., Weiss, G.: *Introduction to Fourier Analysis on Euclidean Spaces*. Princeton Mathematical Series, vol. 32. Princeton University Press, Princeton (1971)
91. Strichartz, R.: *A Guide to Distribution Theory and Fourier Transforms*. Studies in Advanced Mathematics, x+213pp. CRC Press, Boca Raton (1994)
92. Tanabe, H.: *Functional Analytic Methods for Partial Differential Equations (English Summary)*. Monographs and Textbooks in Pure and Applied Mathematics, vol. 204, pp. x+414. Marcel Dekker, New York (1997)
93. Taylor, M.: *Pseudodifferential Operators*. Princeton Mathematical Series, vol. 34. Princeton University Press, Princeton (1981)
94. Taylor, M.: *Tools for PDE. Pseudodifferential Operators, Paradifferential Operators, and Layer Potentials*. Mathematical Surveys and Monographs, vol. 81. American Mathematical Society, Providence (2000)
95. Trèves, F.: *Topological Vector Spaces, Distributions and Kernels*. Academic Press, New York (1967)
96. Triebel, H.: *Fourier Analysis and Function Spaces*. Teubner-Texte Math., vol. 7. Teubner, Leipzig (1977)
97. Triebel, H.: *Spaces of Besov-Hardy-Sobolev type*. Teubner-Texte zur Mathematik. With German, French and Russian summaries. BSB B. G. Teubner Verlagsgesellschaft, Leipzig (1978)
98. Triebel, H.: *Interpolation Theory, Function Spaces, Differential Operators*. North-Holland, Amsterdam (1978)
99. Triebel, H.: *Theory of Function Spaces*. Birkhäuser, Basel (1983)
100. Triebel, H.: *Theory of Function Spaces II*. Birkhäuser, Basel (1992)
101. Triebel, H.: *Fractal and Spectra*. Birkhäuser, Basel (1997)
102. Triebel, H.: *Interpolation Theory Function Spaces Differential Operators*. 2nd Revised and Enlarged edn. Birkhäuser, Basel (1998)
103. Triebel, H.: *The Structure of Functions*. Birkhäuser, Basel (2000)
104. Triebel, H.: *Theory of Function Spaces III*. Birkhäuser, Basel (2006)
105. Triebel, H.: *Function Spaces and Wavelets on Domains*. EMS Tracts in Mathematics (ETM), vol. 7. European Mathematical Society (EMS), Zürich (2008)
106. Triebel, H.: *Fractals and Spectra. Related to Fourier Analysis and Function Spaces*. Modern Birkhauser Classics, viii+271pp. Birkhauser Verlag, Basel (2011)
107. Triebel, H.: *Entropy Numbers of Quadratic Forms and Their Applications to Spectral Theory*. In: Brown, B.M., Lang, J., Wood, I.G. (eds.) *Spectral Theory, Function Spaces and Inequalities. Operator Theory, Advances and Applications*, vol. 219, pp. 243–262. Birkhauser/Springer, Basel (2012)
108. Triebel, H.: *Faber Systems and Their Use in Sampling, Discrepancy, Numerical Integration*. EMS Series of Lectures in Mathematics, viii+107pp. European Mathematical Society (EMS), Zurich (2012)
109. Triebel, H.: *Local Function Spaces, Heat and Navier–Stokes Equations*. EMS Tracts in Mathematics, vol. 20, x+232pp. European Mathematical Society (EMS), Zurich (2013)
110. Triebel, H.: *Hybrid Function Spaces, Heat and Navier–Stokes Equations*. EMS Tracts in Mathematics, vol. 24, x+185pp. European Mathematical Society (EMS), Zürich (2014)
111. Sagher, Y., Zhou, K.C.: *A local version of a theorem of Khinchin*. In: *Analysis and Partial Differential Equations. Lecture Notes in Pure and Applied Mathematics*, vol. 122, pp. 327–330. Dekker, New York (1990)

112. Simon, B.: *A Comprehensive Course in Analysis, Part 3*, xviii+759pp. American Mathematical Society, Providence (2015)
113. Strömberg, J.O., Torchinsky, A.: *Weighted Hardy spaces*. Lecture Notes in Mathematics, vol. 1381. Springer, Berlin (1989)
114. Uchiyama, A.: *Hardy Spaces on the Euclidean Space*, With a foreword by Nobuhiko Fujii, Akihiko Miyachi and Kozo Yabuta and a personal recollection of Uchiyama by Peter W. Jones. Springer Monographs in Mathematics. Springer, Tokyo (2001)
115. Varopoulos, N.T., Saloff-Coste, L., Coulhon, T.: *Analysis and Geometry on Groups*. Cambridge Tracts in Mathematics, vol. 100. Cambridge University Press, Cambridge (1992)
116. Warner, F.W.: *Foundations of Differentiable Manifolds and Lie Groups*. Corrected reprint of the 1971 edition, Graduate Texts in Mathematics, vol. 94. Springer, New York/Berlin (1983)
117. Wojtaszczyk, P.: *A Mathematical Introduction to Wavelets*. Cambridge University Press, Cambridge (1997)
118. Yang, D., Yang, D., Hu, G.: *The Hardy Space  $H^1$  with Non-doubling Measures and Their Applications*. Lecture Notes in Mathematics, vol. 2084. Springer, Berlin (2013)
119. Yoshida, K.: *Functional Analysis*. Springer, Berlin (1995)
120. Yuan, W., Sickel, W., Yang, D.: *Morrey and Campanato Meet Besov, Lizorkin and Triebel*. Lecture Notes in Mathematics, vol. 2005, xi+281pp. Springer, Berlin (2010)
121. Zygmund, A.: *Trigonometric Series*. Cambridge University Press, Cambridge (1959)

### *Research Papers*

122. Aboulaich, R., Meskine, D., Souissi, A.: *New discussion models in image processing*. Comput. Math. Appl. **56**(4), 874–882 (2008)
123. Abu-Shammala, W., Torchinsky, A.: *The Hardy-Lorentz spaces  $H^{p,q}(\mathbb{R}^n)$* . Studia Math. **182**(3), 283–294 (2007)
124. Agmon, S., Douglis, A., Nirenberg, L.: *Estimates near the boundary for solutions of elliptic partial differential equations satisfying general boundary conditions, I*. Commun. Pure Appl. Math. **17**, 623–727 (1959)
125. Adamowicz, T., Harjulehto P., Hästö, P.: *Maximal operator in variable exponent Lebesgue spaces on unbounded quasimetric measure spaces*. Math. Scand. **116**(1), 5–22 (2015)
126. Akbulut, A., Guliyev, V.S., Noi, T., Sawano, Y.: *Generalized Morrey spaces—revisited*. Zeit. Anal. Anwend. **32**, 301–321 (2017)
127. Alabern, R., Mateu, J., Verdera, J.: *A new characterization of Sobolev spaces on  $\mathbb{R}^n$* . Math. Ann. **354**(2), 589–626 (2012)
128. Albrecht, D., Duong, D., McIntosh, A.: *Operator theory and harmonic analysis*. Workshop in Analysis and Geometry (1995); Proceedings of the Centre for Mathematics and Its Applications. ANU **34**, 77–136 (1996)
129. Allaoui, S.E., Bourdaud, G.: *Localisation uniforme des espaces de Besov et de Lizorkin–Triebel*. (French) [Uniform localisation of Besov and Lizorkin–Triebel spaces] Arch. Math. (Basel) **109**(6), 551–562 (2017)
130. Almeida, A., Hästö, P.: *Besov spaces with variable exponent and integrability*. J. Funct. Anal. **258**, 1628–1655 (2010)
131. Amann, H.: *Operator-valued Fourier multipliers, vector-valued Besov spaces, and applications*. Math. Nachr. **186**, 5–56 (1997)
132. Amann, H.: *On the strong solvability of the Navier–Stokes equations*. J. Math. Fluid. Mech. **2**, 16–98 (2000)
133. Andersson, P.: *Two-microlocal spaces, local norms and weighted spaces*, Paper 2 in PhD Thesis. University of Göteborg, pp. 35–58 (1997)
134. Annoni, M., Grafakos, L., Honík, P.: *On an inequality of Sagher and Zhou concerning Stein’s lemma*. Collect. Math. **60**(3), 297–306 (2009)

135. Antonov, N.Y.: Convergence of Fourier series. Proceedings of the XX Workshop on Function Theory, Moscow (1995). East J. Approx. **2**(2), 187–196 (1996)
136. Andersen K.F., John, R.T.: Weighted inequalities for vector-valued maximal functions and singular integrals. Studia Math. **69**, 19–31 (1980)
137. Aoki, T.: Locally bounded linear topological spaces. Proc. Imp. Acad. Tokyo **18**, 588–594 (1942)
138. Aron, R.M., Lacroux, M., Ryan, R., Tonge, A.M.: The generalized Rademacher functions. Note Mat. **12**, 15–25 (1992)
139. Aronszajn, N.: Boundary values of functions with finite Dirichlet integral. Technical Report, vol. 14, University of Kansas, pp. 77–94 (1955)
140. Aronszajn, N., Smith, K.T.: Theory of Bessel potentials, I. Ann. Inst. Fourier **11**, 385–476 (1961)
141. Asami, K.: Non-smooth decomposition of homogeneous Triebel-Lizorkin spaces with applications to the Marcinkiewicz integral. Int. J. Appl. Math. **30**(6), 547–568 (2017)
142. Ashino, R., Mandai, T.: Wavelet bases for microlocal filtering and the sampling theorem in  $L^p(\mathbb{R}^n)$ . Appl. Anal. **82**(1), 1–24 (2003)
143. Astashkin, S.V.: Rademacher functions in symmetric spaces. (Russian) Sovrem. Mat. Fundam. Napravl. **32**, 3–161 (2009); translation in J. Math. Sci. (N. Y.) **169**(6), 725–886 (2010)
144. Astashkin, S.V., Leibov, M., Maligranda, L.: Rademacher functions in BMO. Studia Math. **205**(1), 83–100 (2011)
145. Assaad, J., Ouhabaz, E.M.: Riesz transforms of Schrödinger operators on manifolds. J. Geom. Anal. **22**, 1108–1136 (2012)
146. Auscher, P.: On necessary and sufficient conditions for  $L^p$ -estimates of Riesz transforms associated to elliptic operators on  $\mathbb{R}^n$  and related estimates. Mem. Am. Math. Soc. **186**(871), xviii+75 (2007)
147. Auscher, P., Duong, X.T., McIntosh, A.: Boundedness of Banach space valued singular integral operators and Hardy spaces. (2005, Unpublished preprint)
148. Auscher, P., Frey, D.: On the well-posedness of parabolic equations of Navier-Stokes type with  $BMO^{-1}$  data. J. Inst. Math. Jussieu **16**(5), 947–985 (2017)
149. Auscher, P., Hofmann, S., Lacey, M., McIntosh, A., Tchamitchian, P.: The solution of the Kato square root problem for second order elliptic operators on  $\mathbb{R}^n$ . Ann. Math. (2) **156**(2), 633–654 (2002)
150. Auscher, P., Hytonen, T.: Orthonormal bases of regular wavelets in spaces of homogeneous type. Appl. Comput. Harmon. Anal. **34**(2), 266–296 (2013) and Addendum to Orthonormal bases of regular wavelets in spaces of homogeneous type [Appl. Comput. Harmon. Anal. **34**(2), 266–296 (2013)]. Appl. Comput. Harmon. Anal. **39**(3), 568–569 (2015)
151. Auscher, P., McIntosh, A., Nahmod, A.: Holomorphic functional calculi of operators, quadratic estimates and interpolation. Indiana Univ. Math. J. **46**, 375–403 (1997)
152. Auscher, P., McIntosh, A., Russ, E.: Hardy spaces of differential forms on Riemannian manifolds. J. Geom. Anal. **18**, 192–248 (2008)
153. Auscher, P., Russ, E.: Hardy spaces and divergence operators on strongly Lipschitz domains of  $\mathbb{R}^n$ . J. Funct. Anal. **201**, 148–184 (2003)
154. Auscher, P., Russ, E., Tchamitchian, T.P.: Hardy Sobolev spaces on strongly Lipschitz domains of  $\mathbb{R}^n$ . J. Funct. Anal. **218**(1), 54–109 (2005)
155. Axelsson, A., Keith, S., McIntosh, A.: Quadratic estimates and functional calculi of perturbed Dirac operators. Invent. Math. **163**(3), 455–497 (2006)
156. Babenko, K.I.: On conjugate functions. Doklady Akad. Nauk SSSR (N.S.) **62**, 157–160 (1948)
157. Babich, V.M.: On the extension of functions (Russian). Uspehi Matem. Nauk (N.S.) **8**(2(54)), 111–113 (1953)
158. Badr, N., Ben Ali, B.:  $L^p$  boundedness of the Riesz transform related to Schrödinger operators on a manifold. Ann. Sc. Norm. Super. Pisa Cl. Sci. (5) **8**, 725–765 (2009)

159. Bagby, R.J.: An extended inequality for the maximal function. *Proc. Am. Math. Soc.* **48**, 419–422 (1975)
160. Banach, S.: Sur la convergence presque partout de fonctionnelles linéaires. *Bull. Soc. Math. France* **50**(2), 27–32, 36–43 (1926)
161. Baituyakova, Z., Sickel, W.: Strong summability of Fourier series and generalized Morrey spaces. *Anal. Math.* **43**(3), 371–414 (2017)
162. El Baraka, A.: Function spaces of BMO and Campanato type. *Function spaces of BMO and Campanato type. Electron. J. Diff. Equ. Conf.* **9**, 109–115 (2002)
163. El Baraka, A.: Littlewood–Paley characterization for Campanato spaces. *J. Funct. Spaces Appl.* **4**(2), 193–220 (2006)
164. Baernstein, A., Sawyer, E.: Embedding and multiplier theorems for  $H^p(\mathbb{R}^n)$ . *Mem. Am. Math. Soc.* **53**(318), iv+82 (1985)
165. Beauzamy, B.: Espaces de Sobolev et de Besov d'ordre variable définis sur  $L^p$ . *C. R. Acad. Sci. Paris (Ser. A)* **274**, 1935–1938 (1972)
166. Benedek, A., Calderón, A., Panzone, R.: Convolution operators on Banach space valued functions. *Proc. Nat. Acad. Sci. USA* **48**, 356–365 (1962)
167. Bényi, A., Gröchenig, K., Okoudjou, K., Rogers, L.G.: Unimodular Fourier multipliers for modulation spaces. *J. Funct. Anal.* **246**, 366–384 (2007)
168. Bényi, A., Oh, T.: Modulation spaces, Wiener amalgam spaces, and Brownian motions. *Adv. Math.* **228**(5), 2943–2981 (2011)
169. Benedetto, J., Zheng, S.: Besov spaces for the Schrödinger operator with barrier potential. *Complex Anal. Oper. Theory* **4**(4), 777–811 (2010)
170. Bergh, J.: Relation between the 2 complex methods of interpolation. *Indiana Univ. Math. J.* **28**(5), 775–778 (1979)
171. Besov, O.V.: On a family of function spaces. Embedding theorems and extensions. *Dokl. Acad. Nauk SSSR* **126**, 1163–1165 (1959)
172. Besov, O.V.: Investigation of a class of function spaces in connection with imbedding and extension theorems. *Trudy Mat. Inst. Steklov* **60**, 42–81 (1961)
173. Besov, O.V.: An example in the theory of imbedding theorems (Russian). *Dokl. Akad. Nauk SSSR* **143**, 1014–1016 (1962)
174. Besov, O.V.: On the continuation of functions with preservation of the second-order integral modulus of smoothness (Russian). *Mat. Sb. (N.S.)* **58**(100), 673–684 (1962)
175. Besov, O.V.: Extension of functions with preservation of differential-difference properties in  $L^p$  (Russian). *Dokl. Akad. Nauk SSSR* **150**, 963–966 (1963)
176. Besov, O.V.: Extension of functions to the frontier, with preservation of differential-difference properties in  $L^p$  (Russian). *Mat. Sb. (N.S.)* **66**(108), 80–96 (1965)
177. Besov, O.V.: On the density of finitary functions and the extension of classes of differentiable functions (Russian). *Dokl. Akad. Nauk SSSR* **165**, 738–741 (1965)
178. Besov, O.V.: Continuation of certain classes of differentiable functions beyond the boundary of a region (Russian). *Trudy Mat. Inst. Steklov.* **77**, 35–44 (1965)
179. Besov, O.V.: Continuation of functions from  $L^{p,l}$  and  $W^{p,l}$  (Russian). *Trudy Mat. Inst. Steklov.* **89**, 5–17 (1967)
180. Besov, O.V.: The density of finite functions in  $L^{p,\theta}$  and the extension of functions. (Russian), *Trudy Mat. Inst. Steklov.* **89**, 18–30 (1967)
181. Besov, O.V.: Behavior of differentiable functions at infinity, and density of the functions with compact support (Russian). *Trudy Mat. Inst. Steklov.* **105**, 3–14 (1969)
182. Besov, O.V.: Classes of functions with a generalized mixed Hölder condition (Russian). *Trudy Mat. Inst. Steklov.* **105**, 21–29 (1969)
183. Besov, O.V.: Estimates of derivatives in the mixed  $L_p$  norm on a region, and the extension of functions (Russian). *Mat. Zametki* **7**, 147–154 (1970)
184. Besov, O.V.: Inequalities for moduli of continuity of functions given on a domain, and imbedding theorems (Russian). *Dokl. Akad. Nauk SSSR* **202**, 507–510 (1972)
185. Besov, O.V.: The behavior of differentiable functions on a nonsmooth surface. (Russian), *Studies in the theory of differentiable functions of several variables and its applications, IV.* *Trudy Mat. Inst. Steklov.* **117**, 3–10, 343 (1972)



186. Besov, O.V.: Estimates of moduli of smoothness of functions on domains, and imbedding theorems (Russian). Studies in the theory of differentiable functions of several variables and its applications, IV. Trudy Mat. Inst. Steklov. **117**, 22–46, 343 (1972)
187. Besov, O.V.: On traces on a nonsmooth surface of classes on differentiable functions. Proc. Steklov Inst. Math. **117**, 11–23 (1972)
188. Besov, O.V.: Multiplicative estimates for integral norms of differentiable functions of several variables (Russian). Studies in the theory of differentiable functions of several variables and its applications, V. Trudy Mat. Inst. Steklov. **131**, 3–15, 244 (1974)
189. Besov, O.V.: Estimates for the moduli of continuity of abstract functions defined in a domain (Russian). Studies in the theory of differentiable functions of several variables and its applications, V. Trudy Mat. Inst. Steklov. **131**, 16–24, 244 (1974)
190. Besov, O.V.: The growth of the mixed derivative of a function in  $C^{(l_1, l_2)}$  (Russian). Mat. Zametki **15**, 355–362 (1974)
191. Besov, O.V.: Multiplicative estimates of integral moduli of smoothness (Russian). Studies in the theory of differentiable functions of several variables and its applications, VI. Trudy Mat. Inst. Steklov. **140**, 21–26, 286 (1976)
192. Besov, O.V.: Estimations of the errors of cubature formulas by the smoothness of functions (Russian). C. R. Acad. Bulgare Sci. **31**(8), 949–952 (1978)
193. Besov, O.V.: Estimates of the error of cubature formulas with respect to smoothness of functions (Russian). Studies in the theory of differentiable functions of several variables and its applications, VII. Trudy Mat. Inst. Steklov. **150**, 11–23, 321 (1979)
194. Besov, O.V.: Multiplicative estimates of integral moduli of smoothness. Proc. Steklov Inst. Math. **1** (1979)
195. Besov, O.V.: Weight estimates of mixed derivatives in a domain (Russian). Studies in the theory of differentiable functions of several variables and its applications, VIII. Trudy Mat. Inst. Steklov. **156**, 16–21, 262 (1980)
196. Besov, O.V.: Density of compactly supported functions in a weighted Sobolev space (Russian). Studies in the theory of differentiable functions of several variables and its applications, IX. Trudy Mat. Inst. Steklov. **161**, 29–47 (1983)
197. Besov, O.V.: Integral representations of functions in a domain with the flexible horn condition, and imbedding theorems (Russian). Dokl. Akad. Nauk SSSR **273**(6), 1294–1297 (1983)
198. Besov, O.V.: Integral representations of functions and embedding theorems for a domain with a flexible horn condition (Russian). Studies in the theory of differentiable functions of several variables and its applications, X. Trudy Mat. Inst. Steklov. **170**, 12–30, 274 (1984)
199. Besov, O.V.: The Littlewood–Paley theorem for a mixed norm (Russian). Studies in the theory of differentiable functions of several variables and its applications, X. Trudy Mat. Inst. Steklov. **170**, 31–36, 274 (1984)
200. Besov, O.V.: Estimates of integral-moduli of continuity and imbedding theorems for a domain with the flexible horn condition (Russian). Trudy Mat. Inst. Steklov. **172**, 4–15 (1985); Proc. Steklov Inst. Math. **172**, 1–13 (1987)
201. Besov, O.V.: Hörmander’s theorem on Fourier multipliers (Russian). Studies in the theory of differentiable functions of several variables and its applications **11** (Russian). Trudy Mat. Inst. Steklov. **173**, 3–13, 270 (1986)
202. Besov, O.V.: Embeddings of an anisotropic Sobolev space for a domain with a flexible horn condition (Russian). Translated in Proc. Steklov Inst. Math. **4**, 1–13 (1989); Studies in the theory of differentiable functions of several variables and its applications, XII (Russian). Trudy Mat. Inst. Steklov. **181**, 3–14, 269 (1988)
203. Besov, O.V.: Application of integral representations of functions to interpolation of spaces of differentiable functions and Fourier multipliers. Trudy Mat. Inst. Steklov. **192**, 20–34 (1990); English translation in Proc. Steklov Inst. Math. **3**, 192 (1993)
204. Besov, O.V.: Interpolation of spaces of differentiable functions defined in a domain (Russian). Trudy Mat. Inst. Steklov. **201**, Issled. po Teor. Differ. Funktsii Mnogikh Peremen. i ee Prilozh. **15**, 26–42 (1992); Translation in Proc. Steklov Inst. Math. **2**(201), 21–34 (1994)

205. Besov, O.V.: Embeddings of Sobolev-Liouville and Lizorkin-Triebel spaces in a domain (Russian). Dokl. Akad. Nauk **331**(5), 538–540 (1993); Translation in Russian Acad. Sci. Dokl. Math. **48**(1), 130–133 (1994)
206. Besov, O.V.: Embeddings of spaces of functions of variable smoothness (Russian). Dokl. Akad. Nauk **347**(1), 7–10 (1996)
207. Besov, O.V.: Embeddings of spaces of differentiable functions of variable smoothness (Russian). Tr. Mat. Inst. Steklova **214**, Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh. **17**, 25–58 (1997); Translation in Proc. Steklov Inst. Math. **3**(214), 19–53 (1996)
208. Besov, O.V.: Interpolation of spaces of differentiable functions on a domain (Russian). Tr. Mat. Inst. Steklova **214**, Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh. **17**, 59–82 (1997); Translation in Proc. Steklov Inst. Math. **3**(214), 54–76 (1996)
209. Besov, O.V.: Interpolation and embeddings of the spaces of generalized functions  $B_{p,q}^s$  and  $F_{p,q}^s$  on a domain (Russian). Tr. Mat. Inst. Steklova **219**, Teor. Priblizh. Garmon. Anal. 80–102 (1997); Translation in Proc. Steklov Inst. Math. **4**(219), 73–95 (1997)
210. Besov, O.V.: Interpolation and embeddings of function spaces  $B_{pq}^s$  and  $F_{pq}^s$  on a domain (Russian). Dokl. Akad. Nauk **357**(6), 727–730 (1997)
211. Besov, O.V.: On the continuation by zero of functions of several variables (Russian). Mat. Zametki **64**(3), 351–365 (1998); Translation in Math. Notes **64**(3–4), 303–315 (1998)
212. Besov, O.V.: Estimates for some integral operators (Russian). Tr. Mat. Inst. Steklova **227**, Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh. **18**, 75–77 (1999); Translation in Proc. Steklov Inst. Math. **4**(227), 70–72 (1999)
213. Besov, O.V.: On spaces of functions of variable smoothness defined by pseudodifferential operators (Russian). Tr. Mat. Inst. Steklova **227**, Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh. **18**, 56–74 (1999); Translation in Proc. Steklov Inst. Math. **4**(227), 50–69 (1999)
214. Besov, O.V.: On function spaces defined by pseudodifferential operators (Russian). Dokl. Akad. Nauk **367**(6), 730–733 (1999)
215. Besov, O.V.: The Sobolev embedding theorem for a domain with irregular boundary (Russian). Dokl. Akad. Nauk **373**(2), 151–154 (2000)
216. Besov, O.V.: On the works of S.M. Nikolski'i—in the theory of function spaces and its applications (Russian). Tr. Mat. Inst. Steklova **232**, Funkts. Prostran., Garmon. Anal. Differ. Uravn. 25–30 (2001); Translation in Proc. Steklov Inst. Math. **1**(232), 19–24 (2001)
217. Besov, O.V.: On the compactness of embeddings of weighted Sobolev spaces on a domain with an irregular boundary (Russian). Tr. Mat. Inst. Steklova **232**, Funkts. Prostran., Garmon. Anal. Differ. Uravn., 72–93 (2001); Translation in Proc. Steklov Inst. Math. **1**(232), 66–87 (2001)
218. Besov, O.V.: On the compactness of embeddings of weighted Sobolev spaces on a domain with an irregular boundary (Russian). Dokl. Akad. Nauk **376**(6), 727–732 (2001)
219. Besov, O.V.: Sobolev's embedding theorem for a domain with an irregular boundary (Russian). Mat. Sb. **192**(3), 3–26 (2001); Translation in Sb. Math. **192**(3–4), 323–346 (2001)
220. Besov, O.V.: Spaces of functions of fractional smoothness on an irregular domain (Russian). Dokl. Akad. Nauk **383**(5), 586–591 (2002)
221. Besov, O.V.: Equivalent normings of spaces of functions of variable smoothness (Russian). Dokl. Akad. Nauk **391**(5), 583–586 (2003)
222. Besov, O.V.: Equivalent normings of spaces of functions of variable smoothness (Russian). Tr. Mat. Inst. Steklova **243**, Funkts. Prostran., Priblizh., Differ. Uravn., 87–95 (2003); Translation in Proc. Steklov Inst. Math. **243**(4), 80–88 (2003)
223. Besov, O.V.: Spaces of functions of fractional smoothness on an irregular domain (Russian). Mat. Zametki **74**(2), 163–183 (2003); Translation in Math. Notes **74**(1–2), 157–176 (2003)
224. Besov, O.V.: Equivalent norms in spaces of functions of fractional smoothness on an arbitrary domain (Russian). Mat. Zametki **74**(3), 340–349 (2003); Translation in Math. Notes **74**(3–4), 326–334 (2003)
225. Besov, O.V.: A test for the uniform convergence of a trigonometric Fourier series (Russian). Dokl. Akad. Nauk **395**(6), 727–732 (2004)

226. Besov, O.V.: On the interpolation, embedding, and extension of spaces of functions of variable smoothness (Russian). Dokl. Akad. Nauk **401**(1), 7–11 (2005)
227. Besov, O.V.: Interpolation, embedding, and extension of spaces of functions of variable smoothness (Russian). Tr. Mat. Inst. Steklova **248**, Issled. po Teor. Funkts. i Differ. Uravn., 52–63 (2005); Translation in Proc. Steklov Inst. Math. **1**(248), 47–58 (2005)
228. Besov, O.V.: An estimate for the approximation of periodic functions by Fourier sums (Russian). Mat. Zametki **79**(5), 784–787 (2006); Translation in Math. Notes **79**(5–6), 726–728 (2006)
229. Besov, O.V.: Lizorkin-Triebel-type function spaces on an irregular domain (Russian). Tr. Mat. Inst. Steklova **260**, Teor. Funkts. i Nelinein. Uravn. v Chastn. Proizvodn., 32–43 (2008); Translation in Proc. Steklov Inst. Math. **260**(1), 25–36 (2008)
230. Besov, O.V.: Estimates for  $L^p$ -moduli of continuity on domains with an irregular boundary, and embedding theorems (Russian). Sovrem. Mat. Fundam. Napravl. **25**, 21–33 (2007); Translation in J. Math. Sci. (N. Y.) **155**(1), 18–30 (2008)
231. Besov, O.V.: Function spaces of Lizorkin-Triebel type on an irregular domain. Nonlinear Anal. **70**(8), 2842–2845 (2009)
232. Besov, O.V.: Spaces of functions of fractional smoothness on an irregular domain (Russian). Dokl. Akad. Nauk **425**(4), 439–442 (2009); Translation in Dokl. Math. **79**(2), 223–226 (2009)
233. Besov, O.V.: Integral estimates for differentiable functions on irregular domains (Russian). Dokl. Akad. Nauk **430**(5), 583–585 (2010); Translation in Dokl. Math. **81**(1), 87–90 (2010)
234. Besov, O.V.: Sobolev embedding theorem for anisotropically irregular domains (Russian). Dokl. Akad. Nauk **438**(5), 586–589 (2011); Translation in Dokl. Math. **83**(3), 367–370 (2011)
235. Besov, O.V.: Sobolev’s embedding theorem for anisotropically irregular domains. Eurasian Math. J. **2**(1), 32–51 (2011)
236. Besov, O.V.: On spaces of functions of smoothness zero (Russian). Mat. Sb. **203**(8), 3–16 (2012); Translation in Sb. Math. **203**(7–8), 1077–1090 (2012)
237. Besov, O.V.: Embedding of a weighted Sobolev space and properties of the domain. ISSN:1064–5624. Doklady Math. **90**(3), 754–757 (2014); Doklady Akademii Nauk **459**(6), 663–666 (2014)
238. Besov, O.V.: Embedding of Sobolev space in the case of the limit exponent (Russian). Mat. Zametki **98**(4), 498–510 (2015)
239. Besov, O.V.: Embedding of a Sobolev space in the case of a limiting exponent. Dokl. Akad. Nauk **462**(2), 131–134 (2015); Translation in Dokl. Math. **91**(3), 277–280 (2015)
240. Besov, O.V.: Spaces of functions of positive smoothness on irregular domains. ISSN:1064–5624, Doklady Math. **93**(1), 13–15 (2016); Doklady Akademii Nauk **466**(2), 133–136 (2016)
241. Besov, O.V.: Embeddings of spaces of functions of positive smoothness on irregular domains in Lebesgue spaces. (Russian) Mat. Zametki **103**(3), 336–345 (2018)
242. Besov, O.V., žabrailov, A.D.D., Interpolation theorems for certain spaces of differentiable functions (Russian). Trudy Mat. Inst. Steklov. **105**, 15–20 (1969)
243. Besov, O.V., Il’in, V.P.: A natural extension of the class of domains in imbedding theorems (Russian). Mat. Sb. (N.S.) **75**(117), 483–495 (1968)
244. Besov, O.V., Il’in, V.P.: An imbedding theorem for the limit exponent (Russian). Mat. Zametki **6**, 129–138 (1969)
245. Besov, O.V., Kadlec, J., Kufner, A.: Certain properties of weight classes (Russian). Dokl. Akad. Nauk SSSR **171**, 514–516 (1966)
246. Besov, O.V., Kufner, A.: The density of smooth functions in weight spaces (Russian). Czechoslov. Math. J. **18**(93), 178–188 (1968)
247. Besov, O.V., Lizorkin, V.P.: The  $L_p$ -estimates of a certain class of non-isotropically singular integrals (Russian). Dokl. Akad. Nauk SSSR **169**, 1250–1253 (1966)
248. Besov, O.V., Lizorkin, V.P.: Singular integral operators and sequences of convolutions in  $L_p$ -spaces (Russian). Mat. Sb. (N.S.) **73**(115), 65–88 (1967)

249. Besov, B.F., Cobos, F.: Duality for logarithmic interpolation spaces when  $0 < q < 1$  and applications. *J. Math. Anal. Appl.* **466**(1), 373–399 (2018)
250. Beurling, A.: Construction and analysis of some convolution algebra. *Ann. Inst. Fourier* **14**, 1–32 (1964)
251. Birman, M.Š., Solomjak, M.Z.: Piecewise polynomial approximations of functions of classes  $W_p^\alpha$ . *Mat. Sb. (N.S.)* **73**(115), 331–355 (1967)
252. Birnbaum, Z., Orlicz, W.: Über die Verallgemeinerung des Begriffes der zueinander konjugierten Potenzen. *Studia Math.* **3**, 1–67 (1931)
253. Bonami, A., Grellier, S.: Hankel operators and weak factorization for Hardy-Orlicz spaces. *Colloq. Math.* **118**, 107–132 (2010)
254. Bonami, A., Grellier, S., Ky, L.D.: Paraproducts and products of functions in  $BMO(\mathbb{R}^n)$  and  $H^1(\mathbb{R}^n)$  through wavelets. *J. Math. Pures Appl. (9)* **97**, 230–241 (2012)
255. Bonami, A., Iwaniec, T., Jones, P., Zinsmeister, M.: On the product of functions in  $BMO$  and  $H^1$ . *Ann. Inst. Fourier (Grenoble)* **57**, 1405–1439 (2007)
256. Bonami, A., Feuto, J., Grellier, S.: Endpoint for the DIV-CURL lemma in Hardy spaces. *Publ. Mat.* **54**, 341–358 (2010)
257. Bonk, M., Saksman, E., Soto, T.: Triebel–Lizorkin spaces on metric spaces via hyperbolic fillings. arXiv:1411.5906, Indiana Univ. Math. J. (to appear)
258. Bony, J.M.: Calcul symbolique et propagation des singularités pour les équations aux dérivées partielles non linéaires (French). [Symbolic calculus and propagation of singularities Quantitative analysis in Sobolev imbedding theorems for and applications to spectral theory, nonlinear partial differential equations] *Ann. Sci. École Norm. Sup. (4)* **14**(2), 209–246 (1981)
259. Bony, J.M.: Second microlocalization and propagation of singularities for semi-linear hyperbolic equations. In: Taniguchi Symposium HERT, Katata, pp. 11–49 (1984)
260. Borup, L., Nielsen, M.: Frame decomposition of decomposition spaces. *J. Fourier Anal. Appl.* **13**(1), 39–70 (2007)
261. Borup, L., Nielsen, M.: On anisotropic Triebel–Lizorkin-type spaces, with applications to the study of pseudo-differential operators. *J. Funct. Spaces Appl.* **6**(2), 107–154 (2008)
262. Bourdaud, G.: Une algèbre maximale d’opérateurs pseudo-différentiels. *Commun. PPDE* **13**(9), 1059–1083 (1988)
263. Bourdaud, G.: Localizations des espaces de Besov. *Studia Math.* **90**, 153–163 (1988)
264. Bourdaud, G.: Réalisations des espaces de Besov, homogènes. *Ark. Mat.* **26**, 41–54 (1988)
265. Bourdaud, G.: Changes of variable in Besov spaces. II. *Forum Math.* **12**(5), 545–563 (2000)
266. Bourdaud, G.: Realizations of homogeneous Sobolev spaces. *Complex Var. Elliptic Equ.* **56**(10–11), 857–874 (2011)
267. Bourdaud, G., Cristoforis, M.L., Sickel, W.: Functional calculus on BMO and related spaces. *J. Funct. Anal.* **189**(2), 515–538 (2002)
268. Bourdaud, G., Meyer, Y.: Fonctions qui opèrent sur les espaces de Sobolev. *J. Funct. Anal.* **97**, 351–360 (1991)
269. Bourdaud, G., Meyer, Y.: Le calcul fonctionnel sous-linéaire dans les espaces de Besov homogènes. [Sublinear functional calculus in homogeneous Besov spaces] *Rev. Mat. Iberoam.* **22**(2), 725–746, loose erratum (2006)
270. Bourdaud, G., Moussai, M., Sickel, W.: An optimal symbolic calculus on Besov algebras. *Ann. Inst. H. Poincaré Anal. Non Linéaire* **23**(6), 949–956 (2006)
271. Bourdaud, G., Moussai, M., Sickel, W.: Towards sharp superposition theorems in Besov and Lizorkin-Triebel spaces. *Nonlinear Anal.* **68**(10), 2889–2912 (2008)
272. Bourdaud, G., Moussai, M., Sickel, W.: Composition operators on Lizorkin-Triebel spaces. *J. Funct. Anal.* **259**(5), 1098–1128 (2010)
273. Bourdaud, G., Moussai, M., Sickel, W.: Composition operators acting on Besov spaces on the real line. *Ann. Mat. Pura Appl. (4)* **193**(5), 1519–1554 (2014)
274. Bourdaud, G., Sickel, W.: Changes of variable in Besov spaces. *Math. Nachr.* **198**, 19–39 (1999)

275. Bourdaud, G., Sickel, W.: Composition operators on function spaces with fractional order of smoothness. In: Harmonic Analysis and Nonlinear Partial Differential Equations. RIMS Kokyuroku Bessatsu, vol. B26, pp. 93–132. Research Institute for Mathematical Sciences (RIMS), Kyoto (2011)
276. Bownik, M.: Anisotropic Hardy spaces and wavelets. *Mem. Am. Math. Soc.* **164**(781), vi+122 (2003)
277. Bownik, M.: Boundedness of operators on Hardy spaces via atomic decompositions. *Proc. Am. Math. Soc.* **133**(12), 3535–3542 (2005)
278. Bownik, M.: Atomic and molecular decompositions of anisotropic Besov spaces. *Math. Z.* **250**, 539–571 (2005)
279. Bownik, M.: Anisotropic Triebel–Lizorkin spaces with doubling measures. *J. Geom. Anal.* **17**, 387–424 (2007)
280. Bownik, M.: Duality and interpolation of anisotropic Triebel–Lizorkin spaces. *Math. Z.* **259**(1), 131–169 (2008)
281. Bownik, M.: Extrapolation of discrete Triebel–Lizorkin spaces. *Math. Nachr.* **286**(5–6), 492–502 (2013)
282. Bownik, M., Ho, K.P.: Atomic and molecular decompositions of anisotropic Triebel–Lizorkin spaces. *Trans. Am. Math. Soc.* **358**(4), 1469–1510 (2006)
283. Bourgain, J., Li, D.: Strong ill-posedness of the incompressible Euler equation in borderline Sobolev spaces. *Invent. Math.* **201**(1), 97–157 (2015)
284. Bourgain, J., Pavlovic, N.: Ill-posedness of the Navier–Stokes equations in a critical space in 3D. *J. Funct. Anal.* **255**, 2233–2247 (2008)
285. Brundnyj, J.A., Krejn, S.G., Semenov, E.M.: Interpolation of linear operators (Russian). In: *Itoji nauki i tehniki, Se. mat. analiz.* vol. 24, pp. 3–163. Moskva, Akademija nauk SSSR (1986)
286. Blasco, O., Ruiz, A., Vega, L.: Non-interpolation in Morrey–Campanato and block spaces. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* **28**, 31–40 (1999)
287. Brezis, H., Mironescu, P.: Gagliardo–Nirenberg, composition and products in fractional Sobolev spaces. *J. Evol. Equ.* **1**, 387–404 (2001)
288. Butzer, P.L., Ferreira, P.J.S.G., Higgins, J.R., Saitoh, S., Schmeisser, G., Steins, R.L.: Interpolations and sampling: E.T. Whittaker, K. Ogura and their followers. *J. Fourier Anal. Appl.* **17**, 320–354 (2011)
289. Bui, H.Q.: Some aspects of weighted and non-weighted Hardy spaces. *Kokyuroku Res. Inst. Math. Sci.* **383**, 38–56 (1980)
290. Bui, H.Q.: Weighted Hardy spaces. *Math. Nachr.* **103**, 45–62 (1981)
291. Bui, H.Q.: Weighted Besov and Triebel spaces: interpolation by the real method. *Hiroshima Math. J.* **3**, 581–605 (1982)
292. Bui, H.Q.: Representation theorems and atomic decomposition of Besov spaces. *Math. Nachr.* **132**, 301–311 (1987)
293. Bui, H.Q., Duong, X.T., Yan, L.: Calderón reproducing formulas and new Besov spaces associated with operators. *Adv. Math.* **229**(4), 2449–2502 (2012)
294. Bui, H.Q., Paluszynski, M., Taibleson, M.H.: A maximal function characterization of weighted Besov–Lipschitz and Triebel–Lizorkin spaces. *Studia Math.* **119**, 219–246 (1996)
295. Bui, H.Q., Paluszynski, M., Taibleson, M.H.: Characterization of the Besov–Lipschitz and Triebel–Lizorkin spaces. The case  $q < 1$ . *J. Fourier Anal. Appl.* **3**, 837–846 (1997). Special issue
296. Bui, T.A., Duong, X.T.: Besov and Triebel–Lizorkin spaces associated to Hermite operators. *J. Fourier Anal. Appl.* **21**(2), 405–448 (2015)
297. Burenkov, V.I.: Additivity of the spaces  $W_p^r$  and  $B_p^r$ , and embedding theorems for domains of general form (Russian). *Trudy Mat. Inst. Steklov.* **105**, 30–45 (1969)
298. Burenkov, V.I.: The approximations of functions from Sobolev spaces by functions with compact support in the case of an arbitrary open set (Russian). *Dokl. Akad. Nauk SSSR* **202**, 259–262 (1972)

299. Burenkov, V.I.: The approximation of functions in the space  $C'(\Omega)$  by functions of compact support, for an arbitrary open set  $\Omega$  (Russian). Studies in the theory of differentiable functions of several variables and its applications, IV. Trudy Mat. Inst. Steklov. **117**, 62–74, 343 (1972)
300. Burenkov, V.I.: Sobolev's integral representation and Taylor's formula (Russian). Studies in the theory of differentiable functions of several variables and its applications, V. Trudy Mat. Inst. Steklov. **131**, 33–38, 244 (1974)
301. Burenkov, V.I.: The density of infinitely differentiable functions in Sobolev spaces for an arbitrary open set (Russian). Studies in the theory of differentiable functions of several variables and its applications, VI. Trudy Mat. Inst. Steklov. **131**, 39–50, 244–245 (1974)
302. Burenkov, V.I.: On partition of unity. Proc. Steklov Inst. Math. **4**, 25–31 (1981)
303. Burenkov, V.I.: Estimates for Fourier transforms and convolutions in Nikolski'i-Besov spaces (Russian). Translated in Proc. Steklov Inst. Math. **3**, 35–44 (1990); Studies in the theory of differentiable functions of several variables and its applications **13** (Russian). Trudy Mat. Inst. Steklov. **187**, 31–38 (1989)
304. Burenkov, V.I.: Extension theory for Sobolev spaces on open sets with Lipschitz boundaries. In: Nonlinear Analysis, Function Spaces and Applications, Prague, vol. 6, pp. 1–49 (1998). Academy of Sciences of the Czech Republic, Prague (1999)
305. Burenkov, V.I.: Extension theorems for Sobolev and more general spaces for degenerate open sets. In: Proceedings of the Second ISAAC Congress, Fukuoka, vol. 2, pp. 1135–1141 (1999); International Society of Analysis and Applied Computations, vol. 8. Kluwer Academic Publishers, Dordrecht (2000)
306. Burenkov, V.I., Gol'dman, M.L.: On the extensions of functions of  $L^p$ . Trudy Math. Inst. Steklov **150**, 31–51 (1979) (English transl. **4**, 33–53 (1981))
307. Burenkov, V.I., Gorbunov, A.L.: A two-sided estimate for the minimal norm of the extension operator for Sobolev spaces (Russian). Dokl. Akad. Nauk **330**(6), 680–682 (1993); Translation in Russian Acad. Sci. Dokl. Math. **47**(3), 589–592 (1993)
308. Burenkov, V.I., Gorbunov, A.L.: Sharp estimates for the minimal norm of extension operators for Sobolev spaces (Russian). Izv. Ross. Akad. Nauk Ser. Mat. **61**(1), 3–44 (1997); Translation in Izv. Math. **61**(1), 1–43 (1997)
309. Burenkov, V.I., Kalyabin, G.A.: Lower estimates of the norms of extension operators for Sobolev spaces on the halfline. Math. Nachr. **218**, 19–23 (2000)
310. Burenkov, V.I., Kudryavtsev, L.D., Neverov, I.V.: On an identity for differences of arbitrary order. Mat. Zametki **64**(2), 302–307 (1998); Translation in Math. Notes **64** (1998); (1–2), 256–261 (1999)
311. Burenkov, V.I., Nursultanov, E.D.: Description of interpolation spaces for local Morrey-type spaces (Russian). Tr. Mat. Inst. Steklova **269**, Teoriya Funktsii i Differentsialnye Uravneniya, 52–62 (2010); Translation in Proc. Steklov Inst. Math. **269**, 46–56 (2010)
312. Burenkov, V.I., Schulze, B.W., Tarkhanov, N.N.: Extension operators for Sobolev spaces commuting with a given transform. Glasgow Math. J. **40**(2), 291–296 (1998)
313. Burenkov, V.I., Senusi, A.: Estimates for constants in additivity inequalities for function spaces. (Russian) Sibirsk. Mat. Zh. **35**(1), 24–40 (1994); Translation in Siberian Math. J. **35**(1), 21–36 (1994)
314. Burenkov, V.I., Tuyakbaev, M.S.: Multipliers of the Fourier integral in weighted  $L^p$ -spaces with an exponential weight (Russian). Dokl. Akad. Nauk SSSR **320**(1), 11–14 (1991); Translation in Soviet Math. Dokl. **44**(2), 365–369 (1992)
315. Burenkov, V.I., Verdiev, T.V.: Extension by zero of functions from spaces with generalized smoothness for degenerate domains (Russian). Tr. Mat. Inst. Steklova **227**, Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh. **18**, 78–91 (1999); Translation in Proc. Steklov Inst. Math. **4**(227), 73–86 (1999)
316. Burenkov, V.I., Viktorova, N.B.: On an embedding theorem for Sobolev spaces with a mixed norm for limit exponents (Russian). Mat. Zametki **59**(1), 62–72, 158 (1986); Translation in Math. Notes **59**(1–2), 45–51 (1986)

317. Caetano, A.M.: On the type of convergence in atomic representations. *Complex Var. Elliptic Equ.* **56**(10–11), 875–883 (2011)
318. Caetano, A.M., Farkas, W.: Local growth envelopes of Besov spaces of generalized smoothness. *Z. Anal. Anwend.* **25**, 265–298 (2006)
319. Caetano, A., Gogatishvili, A., Opic, B.: Sharp embeddings of Besov spaces involving only logarithmic smoothness. *J. Approx. Theory* **152**(2), 188–214 (2008)
320. Caetano, A.M., Lopes, S., Triebel, H.: A homogeneity property for Besov spaces. *J. Funct. Spaces Appl.* **5**(2), 123–132 (2007)
321. Caetano, A.M., Leopold, H.G.: On generalized Besov and Triebel-Lizorkin spaces of regular distributions. *J. Funct. Anal.* **264**, 2676–2703 (2013)
322. Caetano, A.M., Haroske, D.D.: Embeddings of Besov spaces on fractal  $h$ -sets. *Banach J. Math. Anal.* **9**(4), 259–295 (2015)
323. Calderón, A.P.: Lebesgue spaces of differentiable functions and distributions. In: *Partial Differential Equations. Proceedings of Symposia in Pure Mathematics*, vol. 4, pp. 33–49. American Mathematical Society, Providence (1961)
324. Calderón, A.P.: Intermediate spaces and interpolation. *Studia Math. Seria specjalna* **1**, 31–34 (1963)
325. Calderón, A.P.: Intermediate spaces and interpolation, the complex method. *Studia Math.* **14**(1), 113–190, 46–56 (1964)
326. Calderón, A.P.: Spaces between  $L^1$  and  $L^\infty$  and the theorem of Marcinkiewicz. *Studia Math.* **26**, 273–299 (1966)
327. Calderón, A.P.: An atomic decomposition of distributions in parabolic  $H^p$  spaces. *Adv. Math.* **25**, 216–225 (1977)
328. Calderón, A.P., Torchinsky, A.: Parabolic maximal functions associated with a distribution. I. *Adv. Math.* **16**, 1–64 (1975)
329. Calderón, A.P., Torchinsky, A.: Parabolic maximal functions associated with a distribution. II. *Adv. Math.* **24**, 101–171 (1977)
330. Calderón, A.P., Zygmund, A.: On the existence of certain singular integrals. *Acta Math.* **88**, 85–139 (1952)
331. Calderón, A.P., Zygmund, A.: A note on the interpolation of sublinear operations. *Am. J. Math.* **78**, 282–288 (1956)
332. Calderón, A.P., Zygmund, A.: On singular integrals. *Am. J. Math.* **78**, 289–309 (1956)
333. Calderón, A.P., Zygmund, A.: On higher gradients of harmonic functions. *Studia Math.* **24**, 211–226 (1964)
334. Calderón, A.P., Zygmund, A.: Singular integral operators and differential equations. *Am. J. Math.* **79**, 901–921 (1957)
335. Calderón, A.P., Vaillancourt, R.: On the boundedness of pseudo-differential operators. *J. Math. Soc. Japan* **23**, 374–378 (1971)
336. Cannone, M., Planchon, F.: Self-similar solutions for Navier–Stokes equations in  $\mathbb{R}^3$ . *Commun. PDE* **21**, 179–193 (1996)
337. Cantor, G.: Über unendliche, lineare Punktmannigfaltigkeiten V. *Math. Annal.* **21**, 545–591 (1883)
338. Cao, J., Chang, D.C., Fu, Z., Yang, D.: Real interpolation of weighted tent spaces. *Appl. Anal.* **95**(11), 2415–2443 (2016)
339. Cao, J., Chang, D.C., Fu, Z., Yang, D., Yang, S.: Riesz transform characterizations of Musielak–Orlicz–Hardy spaces. *Trans. Am. Math. Soc.* **368**(10), 6979–7018 (2016)
340. Cao, J., Chang, D.C., Wu, H., Yang, D.: Weak Hardy spaces  $WH_L^p(\mathbb{R}^n)$  associated to operators satisfying  $k$ -Davies–Gaffney estimates. *J. Nonlinear Convex Anal.* **16**(7), 1205–1255 (2015)
341. Cao, J., Mayboroda, S., Yang, D.: Maximal function characterizations of Hardy spaces associated to homogeneous higher order elliptic operators. *Forum Math.* **28**(5), 823–856 (2016)
342. Cao, J., Mayboroda, S., Yang, D.: Local Hardy spaces associated with inhomogeneous higher order elliptic operators. *Anal. Appl. (Singap.)* **15**(2), 137–224 (2017)

343. Cao, Y., Jiang, Y.: Weighted Morrey type Besov and Triebel–Lizorkin spaces and pseudo-differential operators with non-regular symbols. *Adv. Math. (China)* **38**(5), 629–640 (2009)
344. Cao, J., Fu, Z., Jiang, R., Yang, D.: Hardy spaces associated with a pair of commuting operators. *Forum Math.* **27**(5), 2775–2824 (2015)
345. Cao, J., Liu, Y., Yang, D.: Hardy spaces  $H_L^1(\mathbb{R}^n)$  associated to Schrödinger type operators  $(-\Delta)^2 + V^2$ . *Houston J. Math.* **36**, 1067–1095 (2010)
346. Cao, J., Yang, D.:  $H_L^p(\mathbb{R}^n)$  associated to operators satisfying  $k$ -Davies-Gaffney estimates. *Sci. China Math.* **55**, 1403–1440 (2012)
347. Carleson, L.: An interpolation problem for bounded analytic functions. *Am. J. Math.* **80**, 921–930 (1958)
348. Carleson, L.: Interpolation by bounded analytic functions and the corona problem. *Ann. Math. (2nd Ser.)* **76**(3), 547–559 (1962)
349. Carro, M.J., Mastyló, M., Rodríguez-Piazza, L.: Almost everywhere convergent Fourier series. *J. Fourier Anal. Appl.* **18**, 266–286 (2012)
350. Cascante, C., Ortega, J.M., Verbitsky, I.E.: Nonlinear potentials and two weight trace inequalities for general dyadic and radial kernels. *Indiana Univ. Math. J.* **53**(3), 845–882 (2004)
351. Chae, D.: On the well-posedness of the Euler equations in the Triebel-Lizorkin spaces. *Commun. Pure Appl. Math.* **55**, 654–678 (2002)
352. Chamorro, D., Lemarié-Rieusset, P.G.: Real interpolation method, Lorentz spaces and refined Sobolev inequalities. *J. Funct. Anal.* **265**(12), 3219–3232 (2013)
353. Chandler-Wilde, S.N., Hewett, D.P., Moiola, A.: Sobolev spaces on non-Lipschitz subsets of  $\mathbb{R}^n$  with application to boundary integral equations on fractal screens. *Integr. Equ. Oper. Theory* **87**(2), 179–224 (2017)
354. Chang, D.C., Dafni, G., Stein, E.M.: Hardy spaces, BMO and boundary value problems for the Laplacian on a smooth domain in  $\mathbb{R}^n$ . *Trans. Am. Math. Soc.* **351**, 1605–1661 (1999)
355. Chang, D.C., Krantz, S.G., Stein, E.M.: Hardy spaces and elliptic boundary value problems. In: *The Madison Symposium on Complex Analysis*, Madison, pp. 119–131 (1991). *Contemporary Mathematical*, vol. 137. American Mathematical Society, Providence (1992)
356. Chang, D.C., Krantz, S.G., Stein, E.M.:  $H^p$  theory on a smooth domain in  $\mathbb{R}^N$  and elliptic boundary value problems. *J. Funct. Anal.* **114**, 286–347 (1993)
357. Chang, D.C., Fu, Z., Yang, D., Yang, S.: Real-variable characterizations of Musielak–Orlicz-Hardy spaces associated with Schrödinger operators on domains. *Math. Methods Appl. Sci.* **39**(3), 533–569 (2016)
358. Chang, D.C., Liu, J., Yang, D., Yuan, W.: Littlewood–Paley characterizations of Hajlasz–Sobolev and Triebel–Lizorkin spaces via averages on balls. *Potential Anal.* **46**(2), 227–259 (2017)
359. Chang, D.C., Yang, D., Yagn, S.: Real-variable theory of Orlicz-type function spaces associated with operators—a survey. In: *Some Topics in Harmonic Analysis and Applications*. *Advanced Lectures in Mathematics (ALM)*, vol. 34, pp. 27–70. International Press, Somerville (2016)
360. Chen, X., Jiang, R., Yang, D.: Hardy and Hardy–Sobolev spaces on strongly Lipschitz domains and some applications. *Anal. Geom. Metr. Spaces* **4**, 336–362 (2016)
361. Chen, Y.Z., Lau, K.S.: Some new classes of Hardy spaces. *J. Funct. Anal.* **84**, 255–278 (1989)
362. Chiarenza, F., Frasca, M., Morrey spaces and Hardy–Littlewood maximal function. *Rend. Mat.* **7**, 273–279 (1987)
363. Choquet, G.: Theory of capacities. *Ann. Inst. Fourier Grenoble* **5**, 1953–1954, 131–295 (1955)
364. Christ, M.: The extension problem for certain function spaces involving fractional order  $s$  of differentiability. *Ark. Mat.* **22**, 63–81 (1984)
365. Christ, M.: A  $T(b)$  theorem with remarks on analytic capacity and the Cauchy integral. *Colloq. Math.* **39–40**, 601–628 (1990)



366. Christ, M.: Lectures on Singular Integral Operators. CBMS Regional Conference Series in Mathematics, vol. 77. American Mathematical Society, Providence (1990)
367. Christ, M., Seeger, A.: Necessary conditions for vector-valued operator inequalities in harmonic analysis. Proc. London Math. Soc. **93**, 447–473 (2006)
368. Cho, Y.K.: Continuous characterization of the Triebel–Lizorkin spaces and Fourier multipliers. Bull. Korean Math. Soc. **47**, 839–857 (2010)
369. Cobos, F., Fernandez-Cabrera, L.M., Kühn, T., Ullrich, T.: On an extreme class of real interpolation spaces. J. Funct. Anal. **256**(7), 2321–2366 (2009)
370. Cobos, F., Kühn, T.: Approximation and entropy numbers in Besov spaces of generalized smoothness. J. Approx. Theory **160**(1–2), 56–70 (2009)
371. Cobos, F., Kühn, T.: Equivalence of K- and J-methods for limiting real interpolation spaces. J. Funct. Anal. **261**(12), 3696–3722 (2011)
372. Cobos, F., Domínguez, O.: Approximation spaces, limiting interpolation and Besov spaces. J. Approx. Theory **189**, 43–66 (2015)
373. Cobos, F., Domínguez, O.: On Besov spaces of logarithmic smoothness and Lipschitz spaces. J. Math. Anal. Appl. **425**(1), 71–84 (2015)
374. Cobos, F., Domínguez, O.: On the relationship between two kinds of Besov spaces with smoothness near zero and some other applications of limiting interpolation. J. Fourier Anal. Appl. **22**, 1174–1191 (2016)
375. Cobos, F., Domínguez, O., Triebel, H.: Characterizations of logarithmic Besov spaces in terms of differences, Fourier-analytical decompositions, wavelets and semi-groups. J. Funct. Anal. **270**(12), 4386–4425 (2016)
376. Cobos, F., Kruglyak, N.: Exact minimizer for the couple  $(L^\infty, BV)$  and the one-dimensional analogue of the Rudin–Osher–Fatemi model. J. Approx. Theory **163**, 481–490 (2011)
377. Cobos, F., Peetre, J., Persson, L.E.: On the connection between real and complex interpolation of quasi-Banach spaces. Bull. Sci. Math. **122**, 17–37 (1998)
378. Cobos, F., Segurado, A.: Description of logarithmic interpolation spaces by means of the J-functional and applications. J. Funct. Anal. **268**(10), 2906–2945 (2015)
379. Cohen, A., Dahmen, W., DeVore, R.A.: Multiscale decompositions on bounded domains. Trans. Am. Math. Soc. **352**(8), 3651–3685 (2000)
380. Coifman, R.: A real variable characterization of  $H^p$ . Studia Math. **51**, 269–274 (1974)
381. Coifman, R.R., Lions, P.L., Meyer, Y., Semmes, P.: Compensated compactness and Hardy spaces. J. Math. Pures Appl. (9) **72**, 247–286 (1993)
382. Coifman, R.R., Meyer, Y.: Au delà des opérateurs pseudo-différentiels. Astérisque, vol. 57. Société Mathématique de France, Paris (1978)
383. Coifman, R.R., Meyer, Y., Stein, E.M.: Some new function spaces and their applications to harmonic analysis. J. Funct. Anal. **62**, 304–335 (1985)
384. Coifman, R.R., Rochberg, R.: Representation theorems for holomorphic and harmonic functions in  $L^p$ . Astérisque **77**, 11–66 (1980)
385. Coifman, R.R., Weiss, G.: Extensions of Hardy spaces and their use in analysis. Bull. Am. Math. Soc. **83**, 569–645 (1977)
386. Cohen, A., Daubechies, I., Feauveau, J. C.: Biorthogonal bases of compactly supported wavelets. Commun. Pure Appl. Math. **45**, 485–560 (1992)
387. Christensen, J.G., Mayeli, A., Ólafsson, G.: Coorbit description and atomic decomposition of Besov spaces. Numer. Funct. Anal. Optim. **33**(7–9), 847–871 (2012)
388. Cianchi, A.: An optimal interpolation theorem of Marcinkiewicz type in Orlicz spaces. J. Funct. Anal. **153**, 357–381 (1998)
389. Cruz-Uribe, D., Fiorenza, A., Neugebauer, C.J.: The maximal function on variable  $L^p$  spaces. Ann. Acad. Sci. Fenn. Math. **28**(1), 223–238 (2003)
390. Cruz-Uribe, D., Fiorenza, A., Neugebauer, C.J.: Corrections to “The maximal function on variable  $L^p$  spaces”. Ann. Acad. Sci. Fenn. Math. **29**(1), 247–249 (2004)
391. Cruz-Uribe, D., Fiorenza, A., Martell, J., Pérez, C.: The boundedness of classical operators on variable  $L^p$  spaces. Ann. Acad. Sci. Fenn. Math. **31**, 239–264 (2006)

392. Cruz-Uribe, D., Rios, C.: The solution of the Kato problem for degenerate elliptic operators with Gaussian bounds. *Trans. Am. Math. Soc.* **364**(7), 3449–3478 (2012)
393. Cruz-Uribe, D., Rios, C.: The Kato problem for operators with weighted degenerate ellipticity. *Trans. Am. Math. Soc.* **367**(7), 4727–4756 (2015)
394. Cruz-Uribe, D., Wang, D.L.: Variable Hardy spaces. *Indiana Univ. Math. J.* **63**(2), 447–493 (2014)
395. Cunanan, J.: On  $L^p$ -boundedness of pseudo-differential operators of Sjöstrand’s class. *J. Fourier Anal. Appl.* **23**(4), 810–816 (2017)
396. Cunanan, J., Kobayashi, M., Sugimoto, M.: Inclusion relations between  $L^p$ -Sobolev and Wiener amalgam spaces. *J. Funct. Anal.* **268**(1), 239–254 (2015)
397. Curbera, G.P., García-Cuerva, J., Martell, J.M., Pérez, C.: Extrapolation with weights, rearrangement-invariant function spaces, modular inequalities and applications to singular integrals. *Adv. Math.* **20**, **203**(1), 256–318 (2006)
398. Cunanan, J., Tsutsui, Y.: Trace operators on Wiener amalgam spaces. *J. Funct. Spaces* **2016**, Article ID 1710260, 1–6 (2006)
399. Cwikel, M., Milman, M., Sagher, Y.: Complex interpolation of some quasi-Banach spaces. *J. Funct. Anal.* **65**, 339–347 (1986)
400. Cwikel, M., Sagher, Y.: Analytic families of operators on some quasi-Banach spaces. *Proc. Am. Math. Soc.* **102**, 979–984 (1988)
401. Dafni, G., Xiao, J.: Some new tent spaces and duality theorems for fractional Carleson measures and  $Q_\alpha(\mathbb{R}^n)$ . *J. Funct. Anal.* **208**, 377–422 (2004)
402. Dahlke, S.: Besov regularity for elliptic boundary value problems in polygonal domains. *Appl. Math. Lett.* **12**(6), 31–36 (1999)
403. Dahlke, S., DeVore, R.A.: Besov regularity for elliptic boundary value problems. *Commun. PDE* **22**(1–2), 1–16 (1997)
404. Dahlke, S., Novak, E., Sickel, W.: Optimal approximation of elliptic problems by linear and nonlinear mappings. I. *J. Complexity* **22**(1), 29–49 (2006)
405. Dahlke, S., Novak, E., Sickel, W.: Optimal approximation of elliptic problems by linear and nonlinear mappings. II. *J. Complexity* **22**(4), 549–603 (2006)
406. Dahlke, S., Novak, E., Sickel, W.: Optimal approximation of elliptic problems by linear and nonlinear mappings. III. *Frames. J. Complexity* **23**(4–6), 614–648 (2007)
407. Dahlke, S., Novak, E., Sickel, W.: Optimal approximation of elliptic problems by linear and nonlinear mappings. IV. Errors in  $L^2$  and other norms. *J. Complexity* **26**(1), 102–124 (2010)
408. Dahlke, S., Sickel, W.: Besov regularity for the Poisson equation in smooth and polyhedral cones. In: Vladimir Maz’ya (ed.) *Sobolev Spaces in Mathematics. II. International Mathematical Series (New York)*, vol. 9, pp. 123–145. Springer, New York (2009)
409. Dahlke, S., Sickel, W.: On Besov regularity of solutions to nonlinear elliptic partial differential equations. *Rev. Mat. Complut.* **26**(1), 115–145 (2013)
410. Dai, F., Gogatishvili, A., Yang, D., Yuan, W.: Characterizations of Sobolev spaces via averages on balls. *Nonlinear Anal.* **128**, 86–99 (2015)
411. Dai, F., Gogatishvili, A., Yang, D., Yuan, W.: Characterizations of Besov and Triebel–Lizorkin spaces via averages on balls. *J. Math. Anal. Appl.* **433**(2), 1350–1368 (2016)
412. Dai, F., Liu, J., Yang, D., Yuan, W.: Littlewood–Paley characterizations of fractional Sobolev spaces via averages on balls. *Proc. Roy. Soc. Edinburgh Sect. A.* (To appear)
413. David, G., Journé, J.L.: A boundedness criterion for generalized Calderón–Zygmund operators. *Ann. Math.* **120**, 371–397 (1984)
414. David, G., Journé, J.L., Semmes, S.: Opérateurs de Calderón–Zygmund, fonctions para-acrétives et interpolation (French). [Calderón–Zygmund operators, para-accretive functions and interpolation] *Rev. Mat. Iberoamericana* **1**(4), 1–56 (1985)
415. Day, M.M.: The spaces  $L^p$  with  $0 < p < 1$ . *Bull. Am. Math. Soc.* **46**, 816–823 (1940)
416. Deng, D., Duong, X.T., Song, L., Tan, C., Yan, L.: Functions of vanishing mean oscillation associated with operators and applications. *Michigan Math. J.* **56**, 529–550 (2008)
417. Deng, D., Han, Y.:  $T1$  theorems for Besov and Triebel–Lizorkin spaces. *Sci. China Ser. A* **48**(5), 657–665 (2005)

418. Deng, D., Han, Y., Yang, D.: Inhomogeneous Plancherel-Pólya inequalities on spaces of homogeneous type and their applications. *Commun. Contemp. Math.* **6**(2), 221–243 (2004)
419. DeVore, R.A., Sharpley, R.C.: Maximal functions measuring smoothness. *Mem. Am. Math. Soc.* **47**(293), 1–115 (1984)
420. DeVore, R.A., Sharpley, R.C.: Besov spaces on domains in  $\mathbb{R}^d$ . *Trans. Am. Math. Soc.* **335**(2), 843–864 (1993)
421. Diening, L.: Maximal functions on generalized  $L^{p(\cdot)}$  spaces. *Math. Inequal. Appl.* **7**, 245–253 (2004)
422. Diening, L., Hästö, P., Roudenko, S.: Spaces of variable integrability and differentiability. *J. Funct. Anal.* **256**, 1731–1768 (2009)
423. Diening, L., Harjulehto, P., Hästö, P., Mizuta, Y., Shimomura, T.: Maximal functions in variable exponent spaces: limiting cases of the exponent. *Ann. Acad. Sci. Fenn. Math.* **34**(2), 503–522 (2009)
424. Dintelman, P.: Fourier multipliers between weighted anisotropic function spaces. Part II. Besov-Triebel spaces. *Z. Anal. Anwend.* **15**(4), 799–818 (1996)
425. Dispa, S.: Intrinsic characterizations of Besov spaces on Lipschitz domains. *Math. Nachr.* **260**, 21–33 (2003)
426. Doetsch, G.: Über die obere Grenze des absoluten Betrages einer analytischen Funktion auf Geraden. *Math. Z.* **8**, 237–240 (1920)
427. Dong, B.H., Xu, J.S.: New Herz type Besov and Triebel-Lizorkin spaces with variable exponents. *J. Funct. Spaces Appl.*, Art. ID 384593, 1–27 (2012)
428. Dong, D., Xu, J.S.: Herz-Morrey type Besov and Triebel-Lizorkin spaces with variable exponents. *Banach J. Math. Anal.* **9**(1), 75–101 (2015)
429. Dorronsoro, J.R.: A characterization of potential spaces. *Proc. Am. Math. Soc.* **95**, 21–31 (1985)
430. Dorronsoro, J.R.: Poisson integrals of regular functions. *Trans. Am. Math. Soc.* **297**, 669–685 (1986)
431. Drihem, D.: Characterizations of Besov-type and Triebel-Lizorkin-type spaces by differences. *J. Funct. Spaces Appl.*, Art. ID 328908, 1–24 (2012)
432. Drihem, D.: Atomic decomposition of Besov spaces with variable smoothness and integrability. *J. Math. Anal. Appl.* **389**(1), 15–31 (2012)
433. Drihem, D.: Embeddings properties on Herz-type Besov and Triebel-Lizorkin spaces. *Math. Inequal. Appl.* **16**(2), 439–460 (2013)
434. Drihem, D.: Atomic decomposition of Besov-type and Triebel-Lizorkin-type spaces. *Sci. China Math.* **56**(5), 1073–1086 (2013)
435. Drihem, D.: Some properties of variable Besov-type spaces. *Funct. Approx. Comment. Math.* **52**(2), 193–221 (2015)
436. Drihem, D., Moussai, M.: Some embeddings into the multiplier spaces associated to Besov and Lizorkin-Triebel spaces. *Z. Anal. Anwend.* **21**(1), 179–184 (2002)
437. Drihem, D., Moussai, M.: On the pointwise multiplication in Besov and Lizorkin-Triebel spaces. *Int. J. Math. Math. Sci.*, Art. ID 76182, 1–18 (2006)
438. Duong, X.T., Li, J.: Hardy spaces associated to operators satisfying bounded holomorphic functional calculus and Davies-Gaffney estimates. *J. Funct. Anal.* **264**, 1409–1437 (2013)
439. Duong, X.T., Xiao, J., Yan, L.: Old and new Morrey spaces with heat kernel bounds. *J. Fourier Anal. Appl.* **13**, 87–111 (2007)
440. Duong, X.T., Yan, L.: Hardy spaces of spaces of homogeneous type. *Proc. Am. Math. Soc.* **131**(10), 3181–3189 (2003)
441. Duong, X.T., Yan, L.: New function spaces of BMO type, the John-Nirenberg inequality, interpolation, and applications. *Commun. Pure Appl. Math.* **58**, 1375–1420 (2005)
442. Duong, X.T., Yan, L.: Duality of Hardy and BMO spaces associated with operators with heat kernel bounds. *J. Am. Math. Soc.* **18**(4), 943–973 (2005)
443. Dvoretzky, A., Erdős, P., Kakutani, S.: Nonincrease everywhere of the Brownian motion process. *Proc. 4th Berkeley Symp. Math. Stat. Probab.* **2**, 103–106 (1961)

444. Dziubański, J., Zienkiewicz, J.: Hardy space  $H^1$  associated to Schrödinger operator with potential satisfying reverse Hölder inequality. *Rev. Mat. Ibero.* **15**, 279–296 (1999)
445. Dziubański, J., Zienkiewicz, J.:  $H^p$  spaces for Schrödinger operators, In: *Fourier Analysis and Related Topics* (Bedlewo, 2000), vol. 56, pp. 45–53. Banach Center Publication. Institute of Mathematics of the Polish Academy of Sciences, Warsaw (2002)
446. Edmunds, D.E., Haroske, D.D.: Spaces of Lipschitz type, embeddings and entropy numbers. *Diss. Math. (Rozprawy Mat.)* **380**, 1–43 (1999)
447. Edmunds, D.E., Haroske, D.D.: Embeddings in spaces of Lipschitz type, entropy and approximation numbers, and applications. *J. Approx. Theory* **104**(2), 226–271 (2000)
448. Edmunds, D.E., Kokilashvili, V., Meskhi, A.: One-sided operators in  $L^{p(x)}$  spaces. *Math. Nachr.* **281**(11), 1525–1548 (2008)
449. Edmunds, D.E., Triebel, H.: Entropy numbers and approximation numbers in function spaces. *Proc. London Math. Soc.* **58**(3), 137–152 (1989)
450. Essén, M., Xiao, J.: Some results on  $Q_p$  spaces,  $0 < p < 1$ . *J. Reine Angew. Math.* **485**, 173–195 (1997)
451. Essén, M., Janson, S., Peng, L., Xiao, J.:  $Q$  spaces of several real variables. *Indiana Univ. Math. J.* **49**(2), 575–615 (2000)
452. Evans, W.D., Opic, B.: Real interpolation with logarithmic functors and reiteration. *Canad. J. Math.* **52**(5), 920–960 (2000)
453. Evans, W.D., Opic, B., Pick, L.: Real interpolation with logarithmic functors. *J. Inequal. Appl.* **7**(2), 187–269 (2002)
454. Farkas, W., Johnsen, J., Sickel, W.: Traces of anisotropic Besov-Lizorkin-Triebel spaces—a complete treatment of the borderline cases. *Math. Bohemica* **125**, 1–37 (2000)
455. Fefferman, C.: Characterizations of bounded mean oscillation. *Bull. Am. Math. Soc.* **77**, 587–588 (1971)
456. Fefferman, C., Rivière, N.M., Sagher, Y.: Interpolation between  $H^p$  spaces: the real method. *Trans. Am. Math. Soc.* **191**, 75–81 (1974)
457. Fefferman, C., Soria, F.: The space weak  $H^1$ . *Studia Math.* **85**, 1–16 (1986)
458. Fefferman, R., Soria, F.: The space weak  $H^1$ . *Studia Math.* **85**(1), 1–16 (1987)
459. Fefferman, C., Stein, E.: Some maximal inequalities. *Am. J. Math.* **93**, 107–115 (1971)
460. Fefferman, C., Stein, E.:  $H^p$  spaces of several variables. *Acta Math.* **129**, 137–193 (1971)
461. Feichtinger, H.G.: Banach convolution algebras of Wiener’s type. In: *Proceedings of the Conference Function, Series, Operators, Colloquia Mathematica Societatis János Bolyai, Rumania*, pp. 509–524 (1980)
462. Feichtinger, H.G.: Banach spaces of distributions of Wiener’s type and interpolation. In: *Functional Analysis and Approximation*, vol. 60, pp. 153–165. Birkhäuser, Basel (1981)
463. Feichtinger, H.G.: Modulation spaces on locally compact Abelian groups. Technical report, University of Vienna (1983)
464. Feichtinger, H.G.: Atomic characterization of modulation spaces through Gabor-type representation. In: *Proceedings of Conference on Constructive Function Theory*, Edmonton. *Rocky Mountain J. Math.* **19**(1), 113–125 (1989)
465. Feichtinger, H.G., Gröchenig, K.H.: A unified approach to atomic decompositions via integrable group representations. In: *Function Spaces and Applications*, Lund, pp. 52–73, 1986. *Lecture Notes in Mathematics*, vol. 1302. Springer, Berlin (1988)
466. Feichtinger, H.G., Gröchenig, K.H.: Banach spaces related to integrable group representations and their atomic decompositions. I. *J. Funct. Anal.* **86**(2), 307–340 (1989)
467. Feichtinger, H.G., Gröchenig, K.H.: Banach spaces related to integrable group representations and their atomic decompositions. II. *Monatsh. Math.* **108**(2–3), 129–148 (1989)
468. Feichtinger, H.G., Gröchenig, K.H.: Gabor wavelets and the Heisenberg group: Gabor expansions and short time Fourier transform from the group theoretical point of view. In: Chui, C.K. (ed.) *Wavelets: A Tutorial in Theory and Applications*, pp. 359–398. Academic Press, Boston (1992)
469. Feichtinger, H.G., Gröchenig, K.H.: Gabor frames and time-frequency analysis of distributions. *J. Funct. Anal.* **146**, 464–495 (1997)

470. Feuto, J.: Products of functions in BMO and  $H^1$  spaces on spaces of homogeneous type. *J. Math. Anal. Appl.* **359**(2), 610–620 (2009)
471. Flett, T.M.: Lipschitz spaces of functions on the circle and the disc. *J. Math. Anal. Appl.* **39**, 125–158 (1972)
472. Fornasier, M., Rauhut, H.: Continuous frames, function spaces, and the discretization problem. *J. Fourier Anal. Appl.* **11**, 245–287 (2005)
473. Folland, G.B.: Subelliptic estimates and function spaces on nilpotent Lie groups. *Ark. Mat.* **13**(2), 161–207 (1975)
474. Folland, G.B.: Lipschitz classes and Poisson integrals on stratified groups. *Studia Math.* **66**(1), 37–55 (1979)
475. Fournier, J.J.F., Stewart, J.: Amalgams of  $L^p$  and  $\ell^q$ . *Bull. Am. Math. Soc.* **13**(1), 1–21 (1985)
476. Franchi, B., Hajlasz, P., Koskela, P.: Definition of Sobolev classes on metric spaces. *Ann. Inst. Fourier (Grenoble)* **49**, 1903–1924 (1999)
477. Franke, J.: On the spaces  $F_{pq}^s$  of Triebel–Lizorkin-type: pointwise multipliers and spaces on domains. *Math. Nachr.* **125**, 29–68 (1986)
478. Franke, J., Runst, T.: Regular elliptic boundary value problems in Besov–Triebel–Lizorkin space. *Math. Nachr.* **174**, 113–149 (1995)
479. Frazier, M., Jawerth, B.:  $\varphi$ -transform and applications to distribution spaces. In: *Function Spaces and Applications*, Lund, 1986. *Lecture Notes in Mathematics*, vol. 1302, pp. 223–246. Springer, Berlin (1988)
480. Frazier, M., Jawerth, B., Weiss, G.: Littlewood–Paley theory and the study of function spaces. *CBMS-AMS Reg. Conf. Ser.* **79**, 129–132 (1991)
481. Frazier, M., Torres, R., Weiss, G.: The boundedness of Calderón–Zygmund operators on the spaces  $\dot{F}_p^{\beta,q}$ . *Rev. Mat. Iberoam.* **4**(1), 41–72 (1988)
482. Frazier, M., Jawerth, B.: Decomposition of Besov spaces. *Indiana Univ. Math. J.* **34**(4), 777–799 (1985)
483. Frazier, M., Jawerth, B.: A discrete transform and decompositions of distribution spaces. *J. Funct. Anal.* **93**(1), 34–170 (1990)
484. Furioli, G., Melzi, C., Veneruso, A.: Littlewood–Paley decompositions and Besov spaces on Lie groups of polynomial growth. *Math. Nachr.* **279**(9–10), 1028–1040 (2006)
485. Fu, J.J., Xu, J.S.: Characterizations of Morrey type Besov and Triebel–Lizorkin spaces with variable exponents. *J. Math. Anal. Appl.* **381**(1), 280–298 (2011)
486. Fu, X., Yang, D., Liang, Y.: Products of functions in  $BMO(\mathcal{X})$  and  $H_{at}^1(\mathcal{X})$  via wavelets over spaces of homogeneous type. *J. Fourier Anal. Appl.* **23**(4), 919–990 (2017)
487. Funaki, T., Hoshino, M.: A coupled KPZ equation, its two types of approximations and existence of global solutions. *J. Funct. Anal.* **273**(3), 1165–1204 (2017)
488. Fujita, H., Kato, T.: On the Navier–Stokes initial value problem I. *Arch. Ration. Mech. Anal.* **16**, 269–315 (1964)
489. Futamura, T., Mizuta, Y., Shimomura, T.: Integrability of maximal functions and Riesz potentials in Orlicz spaces of variable exponent. *J. Math. Anal. Appl.* **366**, 391–417 (2010)
490. Gabisoniya, O.D.: On the absolute convergence of double Fourier series and Fourier integrals. *Soobshch. Akad. Nauk. Gruzin. SSR* **42**, 3–9 (1966)
491. Gaffney, M.P.: The conservation property of the heat equation on Riemannian manifolds. *Commun. Pure Appl. Math.* **12**, 1–11 (1959)
492. Gagliardo, E.: Caratterizzazione delle tracce sulla frontiera relative ad alcune classi di funzioni in  $n$  variabili. *Rend. Sem. Mat. Univ. Padova* **27**, 284–305 (1957)
493. Gagliardo, E.: Proprietà di alcune classi di funzioni in più variabili. *Ricerche Mat.* **7**, 102–137 (1958)
494. Gagliardo, E.: Ulteriori proprietà di alcune classi di funzioni in più variabili, *Ricerche. Mat.* **8**, 24–51 (1959)
495. Gala, S., Sawano, Y.: Wavelet characterization of the pointwise multiplier space  $\dot{X}_r$ , *Functiones et Approximatio* **43**, 109–116 (2010)

496. Galmarino, A.R., Panzone, R.L.:  $L^p$ -spaces with mixed norm, for  $P$  a sequence. *J. Math. Anal. Appl.* **10**, 494–518 (1965)
497. García-Cuerva, J.: Weighted  $H^p$  spaces. *Diss. Math.* **12**, 1–63 (1979)
498. García-Cuerva, J., Herrero, M.J.L.: A theory of Hardy spaces associated to Herz spaces. *Proc. London Math. Soc.* **69**(3), 605–628 (1994)
499. Gatto, E.A., Pineda, E., Urbina, W.O.: Riesz potentials, Bessel potentials and fractional derivatives on Triebel–Lizorkin spaces for the Gaussian measure. *J. Math. Anal. Appl.* **422**(2), 798–818 (2015)
500. Georgiadis, A.G., Johnsen, J., Nielsen, M.: Wavelet transforms for homogeneous mixed-norm Triebel–Lizorkin spaces. *Monatsh. Math.* **183**(4), 587–624 (2017)
501. Giga, Y.: Solutions for semilinear parabolic equations in  $L^p$  and regularity of weak solutions of the Navier–Stokes system. *J. Differ. Equ.* **61**, 186–212 (1986)
502. Giga, Y., Inui, K., Matsui, S.: On the Cauchy problem for the Navier–Stokes equations with nondecaying initial data. *Quaderni di Matematica* **4**, 28–68 (1999)
503. Giga, Y., Miyakawa, T.: Solutions in  $L^r$  of the Navier–Stokes initial value problem. *Arch. Ration. Mech. Anal.* **89**, 267–281 (1985)
504. Gogatishvili, A., Koskela, P., Shanmugalingam, N.: Interpolation properties of Besov spaces defined on metric spaces. *Math. Nachr.* **283**, 215–231 (2010)
505. Gogatishvili, A., Koskela, P., Zhou, Y.: Characterizations of Besov and Triebel–Lizorkin spaces on metric measure spaces. *Forum Math.* **25**, 787–819 (2013)
506. Goncalves, H.F., Kempka, H.: Non-smooth atomic decomposition of 2-microlocal spaces and applications to pointwise multipliers. *J. Math. Anal. Appl.* **434**, 1875–1890 (2016)
507. Goldberg, D.: A local version of real Hardy spaces. *Duke Math. J.* **46**(1), 27–42 (1979)
508. Goldberg, D.: Local Hardy spaces. *Harmonic analysis in Euclidean spaces (Proceedings of Symposium on Pure Mathematics, Williams College, Williamstown, 1978), Part 1*, pp. 245–248, *Proceedings of Symposium on Pure Mathematics, XXXV, Part. American Mathematical Society, Providence* (1979)
509. Gol’dman, M.L.: On the extension of functions of  $L^p(\mathbb{R}^n)$  in spaces with a large number of dimensions (Russian). *Mat. Zametki* **25**, 513–520 (1979)
510. Gol’dman, M.L.: A covering theorem for describing general spaces of Besov type. *Trudy Mat. Inst. Steklov.* **156**, 51–87 (1980)
511. Gol’dman, M.L., Haroske, D.D.: Estimates for continuity envelopes and approximation numbers of Bessel potentials. *J. Approx. Theory* **172**, 58–85 (2013)
512. Goldšteĭn, V.M.: Extension of functions with first generalized derivatives from plane domains (Russian). *Dokl. Akad. Nauk SSSR* **257**(2), 268–271 (1981)
513. Golovkin, K.K., Solonnikov, V.A.: Estimates of convolution operators (Russian). *Zap. Naučn. Sem. Leningrad. Otdel. Mat. Inst. Steklov. (LOMI)* **7**, 6–86 (1968)
514. Gordon, M., Lora, L.: Exponential generalized distributions, *Math. J. Okayama Univ.* **52**, 159–177 (2010)
515. Grafakos, L., Oh, T.: The Kato-Ponce inequality. *Commun. PDE* **39**, 1128–1157 (2014)
516. Grafakos, L., Tao, T., Terwilleger, E.:  $L^p$  bounds for a maximal dyadic sum operator. *Math. Z.* **246**(12), 321–337 (2004)
517. Grafakos, L., Kalton, N.: Multilinear Calderón–Zygmund operators on Hardy spaces. *Collect. Math.* **52**(2), 169–179 (2001)
518. Grafakos, L., Torres, R.H.: Pseudodifferential operators with homogeneous symbols. *Michigan Math. J.* **46**, 261–269 (1999)
519. Grevholm, B.: On the structure of the spaces  $\mathcal{L}_k^{p,\lambda}$ , *Math. Scand.* **26**, 241–254 (1970)
520. Grigor’yan, A., Liu, L.: Heat kernel and Lipschitz-Besov spaces. *Forum Math.* **27**(6), 3567–3613 (2015)
521. Grisvard, P.: Commutativité de deux foncteurs d’interpolation et applications. *J. Math. Pures. Appl.* **45**, 143–290 (1966)
522. Gröchenig, K.: Unconditional bases in translation and dilation invariant function spaces on  $\mathbb{R}^n$ . In: *Constructive Theory of Functions, Varna, 1987*, pp. 174–183. *Publ. House Bulgar. Acad. Sci., Sofia* (1988)

523. Gröchenig, K.: Describing functions: atomic decompositions versus frames. *Monatsh. Math.* **112**, 1–42 (1991)
524. Gubinelli, M., Imkeller, P., Perkowski, N.: A Fourier approach to pathwise stochastic integration. *Electron. J. Probab.* **21**(2016), paper no. 2, 1–37 (2016)
525. Guliyev, V., Omarova, M., Sawano, Y.: Boundedness of intrinsic square functions and their commutators on generalized weighted Orlicz–Morrey spaces. *Banach J. Math. Anal.* **9**(2), 44–62 (2015)
526. Gustavsson, J., Peetre, J.: Interpolation of Orlicz spaces. *Studia Math.* **60**(1), 33–59 (1977)
527. Gurka, P., Harjulehto, P., Nekvinda, A.: Bessel potential spaces with variable exponent. *Math. Inequal. Appl.* **10**, 661–676 (2007)
528. Hadamard, J.: Sur les fonctions entières. *Bull. Soc. Math. France* **24**, 186–187 (1986)
529. Hakim, D.I., Nakamura, S., Sawano, Y.: Interpolation of generalized Morrey spaces. *Constr. Approx.* **46**(3), 489–563 (2017)
530. Hakim, D.I., Nogayama, T., Sawano, Y.: Complex interpolation of smoothness Triebel–Lizorkin–Morrey spaces. *Math. J. Okayama Univ* (To appear)
531. Hakim, D.I., Sawano, Y.: Interpolation of generalized Morrey spaces. *Rev. Mat. Complut.* **29**(2), 295–340 (2016)
532. Hakim, D.I., Sawano, Y.: Calderón’s first and second complex interpolations of closed subspaces of Morrey spaces. *J. Four. Anal. Appl.* **23**(5), 1195–1226 (2017)
533. Hajlasz, P.: Sobolev spaces on an arbitrary metric space. *Potential Anal.* **5**(4), 403–415 (1996)
534. Hajlasz, P., Koskela, P.: Sobolev met Poincaré. *Mem. Am. Math. Soc.* **145**(688), 1–101 (2000)
535. Han, Y.S.: Calderón-type reproducing formula and the  $Tb$  theorem. *Rev. Mat. Ibero.* **10**, 51–91 (1994)
536. Han, Y.S.: Inhomogeneous Calderón reproducing formula on spaces of homogeneous type. *J. Geom. Anal.* **7**, 259–284 (1997)
537. Han, Y.S.: Embedding theorem for inhomogeneous Besov and Triebel–Lizorkin spaces on RD-spaces. *Canad. Math. Bull.* **58**(4), 757–773 (2015)
538. Han, Y.S., Li, J., Ward, L.A.: Hardy space theory on spaces of homogeneous type via orthonormal wavelet bases. *Appl. Comput. Harmon. Anal.* **45**(1), 120–169 (2018)
539. Han, Y.S., Paluszynski, M., Weiss, G.: A new atomic decomposition for the Triebel–Lizorkin spaces. *Contemp. Math.* **189**, 235–249 (1995)
540. Han, Y.S., Müller, D., Yang, D.: Littlewood–Paley characterizations for Hardy spaces on spaces of homogeneous type. *Math. Nachr.* **279**(13–14), 1505–1537 (2006)
541. Han, Y.S., Müller, D., Yang, D.: A theory of Besov and Triebel–Lizorkin spaces on metric measure spaces modeled on Carnot–Carathéodory spaces. *Abstr. Appl. Anal.*, Art. ID 893409, 1–250 (2008)
542. Han, Y.S., Hofmann, S.:  $T1$  Theorem for Besov and Triebel–Lizorkin spaces. *Trans. Am. Math. Soc.* **337**, 839–853 (1993)
543. Han, Y.S., Sawyer, E.T.: Littlewood–Paley theory on spaces of homogeneous type and the classical function spaces. *Mem. Am. Math. Soc.* **110**(530), 1–126 (1994)
544. Han, Y.S., Lu, S., Yang, D.: Inhomogeneous Besov and Triebel–Lizorkin spaces on spaces of homogeneous type. *Approx. Theory Appl. (N.S.)* **15**(3), 37–65 (1999)
545. Han, Y.S., Lu, S., Yang, D.: Inhomogeneous discrete Calderón reproducing formulas for spaces of homogeneous type. *J. Fourier Anal. Appl.* **7**, 571–600 (2001)
546. Han, Y.S., Yang, D.: New characterizations and applications of inhomogeneous Besov and Triebel–Lizorkin spaces on homogeneous type spaces and fractals. *Diss. Math.* **403**, 1–102 (2002)
547. Han, Y.S., Yang, D.: Some new spaces of Besov and Triebel–Lizorkin-type on homogeneous spaces. *Studia Math.* **156**(1), 67–97 (2003)
548. Han, J., Wang, B.:  $\alpha$ -modulation spaces (I) scaling, embedding and algebraic properties. *J. Math. Soc. Japan* **66**(4), 1315–1373 (2014)

549. Hansen, M., Sickel, W.: Best  $m$ -term approximation and tensor product of Sobolev and Besov spaces—the case of noncompact embeddings. *East J. Approx.* **16**(4), 345–388 (2010)
550. Hansen, M., Sickel, W.: Best  $m$ -term approximation and Lizorkin-Triebel spaces. *J. Approx. Theory* **163**(8), 923–954 (2011)
551. Hansen, M., Sickel, W.: Best  $m$ -term approximation and Sobolev-Besov spaces of dominating mixed smoothness—the case of compact embeddings. *Constr. Approx.* **36**(1), 1–51 (2012)
552. Hansen, M., Vyřřal, J.: The Jawerth-Franke embedding of spaces with dominating mixed smoothness. *Georgian Math. J.* **16**(4), 667–682 (2009)
553. Hardy, G.H.: The mean value of the modulus of an analytic function. *Proc. London Math. Soc.* **14**, 269–277 (1914)
554. Hardy, G.H., Littlewood, J.: A maximal theorem with function-theoretic applications. *Acta Math.* **54**(1), 81–116 (1930)
555. Hardy, G.H., Littlewood, J.: Generalizations of a theorem of Paley. *Q. J.* **8**, 161–171 (1937)
556. Haroske, D.D.: Approximation numbers in some weighted function spaces. *J. Approx. Theory* **83**(1), 104–136 (1995)
557. Haroske, D.D.: Some logarithmic function spaces, entropy numbers, applications to spectral theory. *Diss. Math. (Rozprawy Mat.)* **373**, 1–59 (1998)
558. Haroske, D.D.: Logarithmic Sobolev spaces on  $\mathbb{R}^n$ ; entropy numbers, and some applications. *Forum Math.* **12**(3), 257–313 (2000)
559. Haroske, D.D.: On more general Lipschitz spaces. *Z. Anal. Anwend.* **19**(3), 781–799 (2000)
560. Haroske, D.D.: Growth envelope functions in Besov and Sobolev spaces, local versus global results. *Math. Nachr.* **280**(9–10), 1094–1107 (2007)
561. Haroske, D.D., Triebel, H.: Embeddings of function spaces: a criterion in terms of differences. *Complex Var. Elliptic Equ.* **56**, 931–944 (2011)
562. Haroske, D.D., Triebel, H.: Some recent developments in the theory of function spaces involving differences. *J. Fixed Point Theory Appl.* **13**, 341–358 (2013)
563. Haroske, D.D., Moura, S.D., Continuity envelopes of spaces of generalised smoothness, entropy and approximation numbers. *J. Approx. Theory* **128**(2), 151–174 (2004)
564. Haroske, D.D., Moura, S.D., Continuity envelopes and sharp embeddings in spaces of generalized smoothness. *J. Funct. Anal.* **254**(6), 1487–1521 (2008)
565. Haroske, D.D., Schmeisser, H.-J., On trace spaces of function spaces with a radial weight: the atomic approach. *Complex Var. Elliptic Equ.* **55**(8–10), 875–896 (2010)
566. Haroske, D.D., Schneider, C.: Besov spaces with positive smoothness on  $\mathbb{R}^n$ , embeddings and growth envelopes. *J. Approx. Theory* **161**(2), 723–747 (2009)
567. Haroske, D.D., Skrzypczak, L.: Entropy and approximation numbers of embeddings of function spaces with Muckenhoupt weights. I. *Rev. Mat. Complut.* **21**(1), 135–177 (2008)
568. Haroske, D.D., Skrzypczak, L.: Spectral theory of some degenerate elliptic operators with local singularities. *J. Math. Anal. Appl.* **371**(1), 282–299 (2010)
569. Haroske, D.D., Skrzypczak, L.: Entropy numbers of embeddings of function spaces with Muckenhoupt weights, III. Some limiting cases. *J. Funct. Spaces Appl.* **9**(2), 129–178 (2011)
570. Haroske, D.D., Skrzypczak, L.: Entropy and approximation numbers of embeddings of function spaces with Muckenhoupt weights, II. General weights. *Ann. Acad. Sci. Fenn. Math.* **36**(1), 111–138 (2011)
571. Haroske, D.D., Skrzypczak, L.: Continuous embeddings of Besov–Morrey function spaces. *Acta Math. Sin.* **28**(7), 1307–1328 (2012)
572. Haroske, D.D., Skrzypczak, L., Embeddings of Besov–Morrey spaces on bounded domains. *Studia Math.* **218**(2), 119–144 (2013)
573. Haroske, D.D., Skrzypczak, L.: On Sobolev and Franke-Jawerth embeddings of smoothness Morrey spaces. *Rev. Mat. Complut.* **27**(2), 541–573 (2014)
574. Haroske, D.D., Piotrowska, I.: Atomic decompositions of function spaces with Muckenhoupt weights, and some relation to fractal analysis. *Math. Nachr.* **281**(10), 1476–1494 (2008)



575. Haroske, D.D., Tamasi, E.: Wavelet frames for distributions in anisotropic Besov spaces. *Georgian Math. J.* **12**(4), 637–658 (2005)
576. Haroske, D.D., Triebel, H.: Entropy numbers in weighted function spaces and eigenvalue distributions of some degenerate pseudodifferential operators. I. *Math. Nachr.* **167**, 131–156 (1994)
577. Haroske, D.D., Triebel, H.: Entropy numbers in weighted function spaces and eigenvalue distributions of some degenerate pseudodifferential operators. II. *Math. Nachr.* **168**, 109–137 (1994)
578. Haroske, D.D., Triebel, H.: Wavelet bases and entropy numbers in weighted function spaces. *Math. Nachr.* **278**(1–2), 108–132 (2005)
579. He, Z., Yang, D., Yuan, W.: Littlewood–Paley characterizations of second-order Sobolev spaces via averages on balls. *Canad. Math. Bull.* **59**(1), 104–118 (2016)
580. Hedberg, L.I.: On certain convolution inequalities. *Proc. Am. Math. Soc.* **36**(2), 505–510 (1972)
581. Heikkinen, T., Ihnatsyeva, L., Tuominen, H.: Measure density and extension of Besov and Triebel-Lizorkin functions. *J. Fourier Anal Appl.* **22**, 334–382 (2016)
582. Heikkinen, T., Koskela, P., Tuominen, H.: Approximation and quasicontinuity of Besov and Triebel-Lizorkin functions. *Trans. Am. Math. Soc.* **369**, 3547–3573 (2017)
583. Heikkinen, T., Tuominen, H.: Approximation by Hölder functions in Besov and Triebel-Lizorkin spaces. *Constr. Approx.* **44**, 455–482 (2016)
584. Hedberg, L., Netrusov, Y.: An axiomatic approach to function spaces, spectral synthesis, and Luzin approximation. *Mem. Am. Math. Soc.* **188**(882), vi+97 (2007)
585. Heinonen, J., Koskela, P., Shanmugalingam, N., Tyson, J.T.: Sobolev classes of Banach space-valued functions and quasiconformal mappings. *J. Anal. Math.* **85**, 87–139 (2001)
586. Helly, E.: Über Mengen konvexer Körper mit gemeinschaftlichen Punkten, Jahresbericht der Deutschen Mathematiker-Vereinigung. **32**, 175–176 (2013)
587. Hencl, S., Koskela, P.: Composition of quasiconformal mappings and functions in Triebel-Lizorkin spaces. *Math. Nachr.* **286**, 669–678 (2013)
588. Herz, C.: Lipschitz spaces and Bernstein’s theorem on absolutely convergent Fourier transforms. *J. Math. Mech.* **18**, 283–324 (1968)
589. Hewett, D.P., Moiola, A.: On the maximal Sobolev regularity of distributions supported by subsets of Euclidean space. *Anal. Appl. (Singap.)* **15**(5), 731–770 (2017)
590. Hirschman, I.: A convexity theorem for certain groups of transformations. *J. Analyse Math.* **2**, 209–218 (1953)
591. Hofmann, S., Lu, G., Mitrea, D., Mitrea, M., Yan, L.: Hardy spaces associated to non-negative self-adjoint operators satisfying Davies-Gaffney estimates. *Mem. Am. Math. Soc.* **214**(1007), vi+78 (2011)
592. Hofmann, S., Martell, J.:  $L^p$  bounds for Riesz transforms and square roots associated to second order elliptic operators. *Publ. Mat.* **47**, 497–515 (2003)
593. Hofmann, S., Mayboroda, S.: Hardy and BMO spaces associated to divergence form elliptic operators. *Math. Ann.* **344**, 37–116 (2009) and Hofmann, S., Mayboroda, S.: Correction to Hardy and BMO spaces associated to divergence form elliptic operators, arXiv:0907.0129
594. Hofmann, S., Mayboroda, S., McIntosh, A.: Second order elliptic operators with complex bounded measurable coefficients in  $L^p$ , Sobolev and Hardy spaces. *Ann. Sci. École Norm. Sup. (4)* **44**, 723–800 (2011)
595. Ho, K.P.: Remarks on Littlewood–Paley analysis. *Canad. J. Math.* **60**(6), 1283–1305 (2008)
596. Ho, K.P.: Characterization of BMO in terms of rearrangement-invariant Banach function spaces. *Expo. Math.* **27**(4), 363–372 (2009)
597. Ho, K.P.: Littlewood–Paley theory for the differential operator  $\frac{\partial^2}{\partial x_1^2} \frac{\partial^2}{\partial x_2^2} - \frac{\partial^2}{\partial x_3^2}$ . *Z. Anal. Anwend.* **29**(2), 183–217 (2010)
598. Ho, K.P.: Littlewood–Paley spaces. *Math. Scand.* **108**(1), 77–102 (2011)
599. Ho, K.P.: Characterizations of BMO by  $A_p$  weights and  $p$ -convexity. *Hiroshima Math. J.* **41**(2), 153–165 (2011)

600. Ho, K.P.: Wavelet bases in Littlewood–Paley spaces (English summary). *East J. Approx.* **17**(4), 333–345 (2012)
601. Ho, K.P.: Atomic decomposition of Hardy spaces and characterization of BMO via Banach function spaces. *Anal. Math.* **38**(3), 173–185 (2012)
602. Ho, K.P.: Generalized Boyd’s indices and applications. *Analysis (Munich)* **32**(2), 97–106 (2012)
603. Ho, K.P.: Vector-valued singular integral operators on Morrey type spaces and variable Triebel–Lizorkin–Morrey spaces. *Ann. Acad. Sci. Fenn. Math.* **37**(2), 375–406 (2012)
604. Ho, K.P.: Atomic decompositions of weighted Hardy–Morrey spaces. *Hokkaido Math. J.* **42**(1), 131–157 (2013)
605. Hofmann, S., Lacey, M., McIntosh, A.: The solution of the Kato problem for divergence form elliptic operators with Gaussian heat kernel bounds. *Ann. Math. (2)* **156**(2), 623–631 (2002)
606. Hörmander, L.: Estimates for translation invariant operators in  $L^p$  spaces. *Acta Math.* **104**, 93–140 (1960)
607. Hörmander, L.: Pseudo-differential operators and hypoelliptic equations. In: *Singular Integrals. Proceedings of Symposia in Pure Mathematics*, vol. 10. American Mathematical Society, Providence (1967)
608. Hörmander, L.: Pseudo-differential operators of type 1, 1. *Commun. PDE* **13**(9), 1085–1111 (1988)
609. Hu, J.: A note on Hajtász-Sobolev spaces on fractals. *J. Math. Anal. Appl.* **280**, 91–101 (2003)
610. Hunt, R.A.: On the convergence of Fourier series, in 1967. In: *Orthogonal Expansions and Their Continuous Analogues*, pp. 235–255. (Proceedings of Conference, Edwardsville). Southern Illinois University Press, Carbondale (1968)
611. Hutchinson, J.E.: Fractals and self similarity. *Indiana Math. J.* **30**, 713–747 (1981)
612. Ivanov, K., Petrushev, P., Xu, Y.: Decomposition of spaces of distributions induced by tensor product bases. *J. Funct. Anal.* **263**(5), 1147–1197 (2012)
613. Iwaniec, T., Onninen, J.:  $H^1$ -estimates of Jacobians by subdeterminants. *Math. Ann.* **324**, 341–358 (2002)
614. Iwabuchi, T., Matsuyama, T., Taniguchi, K.: Boundedness of spectral multipliers for Schrödinger operators on open sets. *Rev. Mat. Iberoam.* **34**(3), 1277–1322 (2018)
615. Iwabuchi, T., Matsuyama, T., Taniguchi, K.: Besov spaces on open sets. arxiv
616. Izuki, M.: Vector-valued inequalities on Herz spaces and characterizations of Herz-Sobolev spaces with variable exponent. *Glas. Mat. Ser. III* **45**(2(65)), 475–503 (2010)
617. Izuki, M., Noi, T.: Duality of Besov, Triebel–Lizorkin and Herz spaces with variable exponents. *Rend. Circ. Mat. Palermo* **63**, 221–245 (2014)
618. Izuki, M., Sawano, Y.: Wavelet bases in the weighted Besov and Triebel–Lizorkin spaces with  $A_p^{\text{loc}}$ -weights. *J. Approx. Theory* **161**, 656–673 (2009)
619. Izuki, M., Sawano, Y.: Variable Lebesgue norm estimates for BMO functions. *Czechoslov. Math. J.* **62**(3(137)), 717–727 (2012)
620. Izuki, M., Nakai, E., Sawano, Y.: Function spaces with variable exponents—an introduction. *Sci. Math. Jpn.* **77**(2), 187–315 (2014)
621. Izuki, M., Sawano, Y., Tanaka, H.: Weighted Besov–Morrey spaces and Triebel–Lizorkin spaces. In: *Harmonic Analysis and Nonlinear Partial Differential Equations*. RIMS Kôkyûroku Bessatsu, vol. B22, pp. 21–60. Research Institute for Mathematical Sciences (RIMS), Kyoto (2010)
622. Izuki, M., Sawano, Y., Tsutsui, Y.: Variable Lebesgue norm estimates for BMO functions. II. *Anal. Math.* **40**(3), 215–230 (2014)
623. Jaffard, S.: Pointwise smoothness, two-microlocalisation and wavelet coefficients. *Publ. Mat.* **35**, 155–168 (1991)
624. Jaffard, S., Meyer, Y.: Wavelet methods for pointwise regularity and local oscillations of functions. *Mem. Am. Math. Soc.* **123**(587), x+110 (1996)

625. Jaffard, S., Okada, M., Ueno, T.: Approximate sampling theorem and the order of smoothness of the Besov space. In: Harmonic Analysis and Nonlinear Partial Differential Equations. RIMS Kôkyûroku Bessatsu, vol. B18, pp. 45–56. Research Institute for Mathematical Sciences (RIMS), Kyoto (2010)
626. Janson, S.: Generalizations of Lipschitz spaces and an application to Hardy spaces and bounded mean oscillation. *Duke Math. J.* **47**, 959–982 (1980)
627. Janson, S.: On the space  $Q_p$  and its dyadic counterpart. In: Proceedings of Symposium Complex Analysis and Differential Equations, June 1997, Uppsala, vol. 158; Acta Universitatis Upsaliensis C, vol. 64, (C. Kiselman, ed.) pp. 194–205. Uppsala University, Uppsala (1999)
628. Jawerth, B.: Some observations on Besov and Lizorkin-Triebel spaces. *Math. Scand.* **40**, 94–104 (1977)
629. Jawerth, B.: The trace of Sobolev and Besov spaces if  $0 < p < 1$ . *Studia Math.* **62**(1), 65–71 (1978)
630. Jensen, J.L.W.V.: Sur les fonctions convexes et les inégalités entre les valeurs moyennes. *Acta Math* **30**, 175–193 (1906)
631. Jia, H., Wang, H.: Decomposition of Hardy–Morrey spaces. *J. Math. Anal. Appl.* **354**, 99–110 (2009)
632. Jiang, X.J., Yang, D., Yuan, W.: Real interpolation for grand Besov and Triebel–Lizorkin spaces on RD-spaces. *Ann. Acad. Sci. Fenn. Math.* **36**(2), 509–529 (2011)
633. Jiang, R., Yang, D.: New Orlicz-Hardy spaces associated with divergence form elliptic operators. *J. Funct. Anal.* **258**, 1167–1224 (2010)
634. Jiang, R., Yang, D.: Generalized vanishing mean oscillation spaces associated with divergence form elliptic operators. *Integral Eq. Oper. Theory* **67**, 123–149 (2010)
635. Jiang, R., Yang, D.: Orlicz-Hardy spaces associated with operators satisfying Davies-Gaffney estimates. *Commun. Contemp. Math.* **13**, 331–373 (2011)
636. Jiang, R., Yang, D.: Predual spaces of Banach completions of Orlicz-Hardy spaces associated with operators. *J. Fourier Anal. Appl.* **17**, 1–35 (2011)
637. Jiang, R., Yang, D., Zhou, Y.: Orlicz-Hardy spaces associated with operators. *Sci. China Ser. A* **52**, 1042–1080 (2009)
638. Jiao, Y., Zhou, D., Hao, Z.W., Chen, W.: Martingale Hardy spaces with variable exponents. *Banach J. Math. Anal.* **10**(4), 750–770 (2016)
639. John, F., Nirenberg, L.: On function of bounded mean oscillation. *Commun. Pure Appl. Math.* **14**, 415–426 (1961)
640. Johnsen, J.: Pointwise multiplication of Besov and Triebel–Lizorkin spaces. *Math. Nachr.* **175**, 85–133 (1995)
641. Johnsen, J.: Simple proofs of nowhere-differentiability for Weierstrass’s function and cases of slow growth. *J. Fourier Anal. Appl.* **16**(1), 17–33 (2010)
642. Jonsson, A.: Besov spaces on closed sets by means of atomic decompositions, Research Reports 7. Department of Mathematics, University of Umeå, Umeå (1993)
643. Jonsson, A.: Besov spaces on closed subsets of  $\mathbb{R}^n$ . *Trans. Am. Math. Soc.* **341**(1), 355–370 (1994)
644. Jonsson, A., Wallin, H.: Function spaces on subsets of  $\mathbb{R}^n$ . *Math. Rep.* **2**(1), 1–221 (1984)
645. Jonsson, A., Wallin, H.: Boundary value problems and Brownian motion on fractals. *Chaos Solitons Fractals* **8**, 191–205 (1997)
646. Johnsen, J., Hansen, H.M., Sickel, W.: Characterisation by local means of anisotropic Lizorkin-Triebel spaces with mixed norms. *Z. Anal. Anwend.* **32**(3), 257–277 (2013)
647. Johnsen, J., Hansen, H.M., Sickel, W.: Anisotropic, mixed-norm Lizorkin-Triebel spaces and diffeomorphic maps. *J. Funct. Spaces*, Art. ID 964794, 1–15 (2014)
648. Johnsen, J., Sickel, W.: A direct proof of Sobolev embeddings for quasi-homogeneous Lizorkin-Triebel spaces with mixed norms. *J. Funct. Spaces Appl.* **5**(2), 183–198 (2007)
649. Johnsen, J., Sickel, W.: On the trace problem for Lizorkin-Triebel spaces with mixed norms. *Math. Nachr.* **281**(5), 669–696 (2008)
650. Jones, P.W.: Quasiconformal mappings and extendability of functions in Sobolev spaces. *Acta Math.* **147**(1–2), 71–88 (1981)

651. Jonsson, A.: Besov spaces on closed sets by means of atomic decomposition. *Complex Var. Elliptic Equ.* **54**(6), 585–611 (2009)
652. Judovič, V.I.: Some estimates connected with integral operators and with solutions of elliptic equations (Russian). *Dokl. Akad. Nauk SSSR* **138**, 805–808 (1961)
653. Kalton, N., Mitrea, M.: Stability results on interpolation scales of quasi-Banach spaces and applications. *Trans. Am. Math. Soc.* **350**(10), 3903–3922 (1998)
654. Kalyabin, G.A.: Characterizations of function spaces of Besov-Lizorkin-Triebel type. *Dokl. Acad. Nauk. SSSR* **236**, 1056–1059 (1977)
655. Kalyabin, G.A.: Multiplier conditions of function spaces of Besov and Lizorkin-Triebel type. *Dokl. Acad. Nauk SSSR* **251**, 25–26 (1980)
656. Kalyabin, G.A.: The description of functions of classes of Besov-Lizorkin-Triebel type (Russian). *Trudy Mat. Inst. Steklov* **156**, 82–109 (1980)
657. Kalyabin, G.A.: Criteria of the multiplication property and the embeddings in  $C$  of spaces of Besov-Lizorkin-Triebel type. *Mat. Zametki* **30**, 517–526 (1981)
658. Kalyabin, G.A.: Functional classes of Lizorkin-Triebel type in domains with Lipschitz boundary (Russian). *Dokl. Akad. Nauk SSSR* **271**, 795–798 (1983)
659. Kalyabin, G.A.: Theorems on extensions, multipliers and diffeomorphisms for generalized Sobolev–Liouville classes in domains with Lipschitz boundary. *Trudy Mat. Inst. Steklov* **172**, 173–186 (1985)
660. Kato, T.: Fractional powers of dissipative operators. *J. Math. Soc. Japan* **13**, 246–274 (1961)
661. Kato, T.: Strong  $L^p$ -solutions of Navier–Stokes equations in  $\mathbb{R}^n$  with applications to weak solutions. *Math. Z.* **187**, 471–480 (1984)
662. Kato, T.: The inclusion relations between  $\alpha$ -modulation spaces and  $L^p$ -Sobolev spaces or local Hardy spaces. *J. Funct. Anal.* **272**(4), 1340–1405 (2017)
663. Kato, T., Ponce, G.: Commutator estimates and the Euler and Navier–Stokes equations. *Commun. Pure Appl. Math.* **41**, 891–907 (1988)
664. Kempka, H.: Atomic, molecular and wavelet decomposition of generalized 2-microlocal Besov spaces. *J. Funct. Spaces Appl.* **8**, 129–165 (2010)
665. Kempka, H.: Atomic, molecular and wavelet decomposition of 2-microlocal Besov and Triebel–Lizorkin spaces with variable integrability. *Funct. Approx. Comment. Math.* **43**, 171–208 (2010)
666. Kempka, H., Vybíral, J.: Spaces of variable smoothness and integrability: characterizations by local means and ball means of differences. *J. Fourier Anal. Appl.* **18**(4), 852–891 (2012)
667. Kempka, H., Vybíral, J.: A note on the spaces of variable integrability and summability of Almeida and Hästö. *Proc. Am. Math. Soc.* **141**(9), 3207–3212 (2013)
668. Kempka, H., Schäfer, M., Ullrich, T.: General coorbit space theory for quasi-Banach spaces and inhomogeneous Function spaces with variable smoothness and integrability. **23**(6), 1348–1407 (2017)
669. Kerkyacharian, G., Petrushev, P.: Heat kernel based decomposition of spaces of distributions in the framework of Dirichlet spaces. *Trans. Am. Math. Soc.* **367**(1), 121–189 (2015)
670. Khintchine, A.: Über dyadische Brüche (German). *Math. Z.* **18**(1), 109–116 (1923)
671. Klainerman, S., Rodnianski, I.: A geometric approach to the Littlewood–Paley theory. *Geom. Funct. Anal.* **16**(1), 126–163 (2006)
672. von Koch, H.: Sur une courbe continue sans tangente, obtenue par une construction géométrique élémentaire. *Arkiv för Matematik* **1**, 681–704 (1904)
673. von Koch, H.: Une méthode géométrique élémentaire pour l’étude de certaines questions de la théorie des courbes planes. *Acta Math.* **30**, 145–174 (1906)
674. von Koch, H., Tataru, D.: Well-posedness for the Navier–Stokes equations. *Adv. Math.* **157**, 22–35 (2001)
675. Koch, H., Koskela, P., Saksman, E., Soto, T.: Bounded compositions on scaling invariant Besov spaces. *J. Funct. Anal.* **266**, 2765–2788 (2014)
676. Kobayashi, M.: Modulation spaces  $M^{p,q}$  for  $0 < p, q \leq \infty$ . *J. Funct. Spaces Appl.* **4**(3), 329–341 (2006)

677. Kobayashi, T., Muramatu, T.: Abstract Besov space approach to the nonstationary Navier–Stokes equations. *Math. Methods Appl. Sci.* **15**(9), 599–620 (1992)
678. Kolmogoroff, A.: Sur les fonctions harmoniques conjuguées et les séries de Fourier. *Fund. Math.* **7**, 24–29 (1925)
679. Kopaliani, T.S.: Littlewood–Paley characterization on spaces  $L^{p(t)}(\mathbb{R}^n)$ . *Ukrain. Mat. Zh.* **60**(12), 1709–1715 (2008); Translation in *Ukrainian Math. J.* **60**(12), 2006–2014 (2008)
680. Koezuka, K., Tomita, N.: Bilinear pseudo-differential operators with symbols in  $B_{1,1}^m$  on Triebel–Lizorkin spaces. *J. Fourier Anal. Appl.* **24**, 309–319 (2018)
681. Kobayashi, M., Miyachi, A., Tomita, N.: Embedding relations between local Hardy and modulation spaces. *Studia Math.* **192**(1), 79–96 (2009)
682. Kobayashi, M., Sawano, Y.: Molecular decomposition of the modulation spaces  $M^{p,q}$  and its application to the pseudo-differential operators. *Osaka J. Math.* **47**(4), 1029–1053 (2010)
683. Koch, H., Sickel, W.: Pointwise multipliers of Besov spaces of smoothness zero and spaces of continuous functions. *Rev. Mat. Iberoam.* **18**, 587–626 (2002)
684. Komori, Y.: Notes on commutators on Herz-type spaces. *Arch. Math. (Basel)* **81**(3), 318–326 (2003)
685. Komori-Furuya, Y., Matsuoka, K., Nakai, E., Sawano, Y.: Applications of Littlewood–Paley theory for  $\dot{B}_\sigma$ –Morrey spaces to the boundedness of integral operators. *J. Funct. Spaces Appl.*, Art. ID 859402, 1–21 (2013)
686. Koskela, P., Yang, D., Zhou, Y.: Pointwise characterizations of Besov and Triebel–Lizorkin spaces and quasiconformal mappings. *Adv. Math.* **226**, 3579–3621 (2011)
687. Kozono, H., Yamazaki, M.: Semilinear heat equations and the Navier–Stokes equation with distributions in new function spaces as initial data. *Commun. PDE* **19**, 959–1014 (1994)
688. Krbeč, M., Schmeisser, H.J.: Refined limiting imbeddings for Sobolev spaces of vector-valued functions. *J. Funct. Anal.* **227**(2), 372–388 (2005)
689. Krantz, S.G.: Lipschitz spaces on stratified groups. *Trans. Am. Math. Soc.* **269**(1), 39–66 (1982)
690. Kree, P.: Sur les multiplicateurs dans  $\mathcal{F} L^p$  (French). *Ann. Inst. Fourier (Grenoble)* **16**, 31–89 (1966)
691. Ky, L.D.: New Hardy spaces of Musielak–Orlicz type and boundedness of sublinear operators. *Integral Equ. Oper. Theory* **78**(1), 115–150 (2014)
692. Ky, L.D.: On the product of functions in BMO and  $H^1$  over spaces of homogeneous type. *J. Math. Anal. Appl.* **425**(2), 807–817 (2015)
693. Kyriazis, G., Petrushev, P.: New bases for Triebel–Lizorkin and Besov spaces. *Trans. Am. Math. Soc.* **354**(2), 749–776 (2002)
694. Kyriazis, G., Petrushev, P.: On the construction of frames for Triebel–Lizorkin and Besov spaces. *Proc. Am. Math. Soc.* **134**(6), 1759–177 (2006)
695. Krotov, V.G., Prokhorovich, M.: A. Functions from Sobolev and Besov spaces with maximal Hausdorff dimension of the exceptional Lebesgue set (Russian). *Fundam. Prikl. Mat.* **18**(5), 145–153 (2013); Translation in *J. Math. Sci. (N.Y.)* **209**(1), 108–114 (2015)
696. Kurtz, D.: Littlewood–Paley and multipliers theorems on weighted  $L^p$  spaces. *Trans. Am. Math. Soc.* **259**, 235–254 (1980)
697. Kyriazis, G.: Decomposition systems for function spaces. *Studia Math.* **157**, 133–169 (2003)
698. Kuhn, T., Leopold, H.G., Sickel, W., Skrzypczak, L.: Entropy numbers of Sobolev embeddings of radial Besov spaces. *J. Approx. Theory* **121**(2), 244–268 (2003)
699. Kuhn, T., Leopold, H.G., Sickel, W., Skrzypczak, L.: Entropy numbers of embeddings of weighted Besov spaces. *Constr. Approx.* **23**(1), 61–77 (2006)
700. Kuhn, T., Leopold, H.G., Sickel, W., Skrzypczak, L.: Entropy numbers of embeddings of weighted Besov spaces. III. Weights of logarithmic type. *Math. Z.* **255**(1), 1–15 (2007)
701. Lacey, M.: Carleson’s theorem: proof, complements, variations. *Publ. Mat.* **48**, 251–307 (2004)
702. Lacey M., Thiele, C.: A proof of boundedness of the Carleson operator. *Math. Res. Lett.* **7**, 361–370 (2000)
703. Latter, R.: A characterization of  $H^p(\mathbb{R}^n)$  in terms of atoms. *Studia Math.* **62**, 93–101 (1978)

704. Lebesgue, H.: Sur l'intégration des fonctions discontinues. *Ann. Sci. Ecole Norm. Sup.* **27**(3), 361–450 (1910)
705. Lemarie-Rieusset, P.G.: Multipliers and Morrey spaces. *Potential Anal.* **38**(3), 741–752 (2013)
706. Lemarie-Rieusset, P.G.: Erratum to: multipliers and Morrey spaces. *Potential Anal.* **41**(4), 1359–1362 (2014)
707. Leray, J.: Étude de diverses équations intégrales non linéaires et de quelques problèmes que pose l'hydrodynamique. *J. Math. Pures Appl.* **12**, 1–82 (1933)
708. Lerner, A.K.: An elementary approach to several results on the Hardy–Littlewood maximal operator. *Proc. Am. Math. Soc.* **136**(8), 2829–2833 (2008)
709. Leopold, H.G.: On function spaces of variable order and differentiation. *Forum Math.* **3**(1), 1–21 (1991)
710. Leopold, H.G.: Embeddings and entropy numbers in Besov spaces of generalized smoothness. In: *Function Spaces* (Poznań, 1998). *Lecture Notes in Pure and Applied Mathematics*, vol. 213, pp. 323–336. Dekker, New York (2000)
711. Leopold, H.G., Skrzypczak, L.: Entropy numbers of some 2-microlocal Besov spaces. *J. Approx. Theory* **163**(4), 505–523 (2011)
712. Leopold, H.G., Skrzypczak, L.: Compactness of embeddings of function spaces on quasi-bounded domains and the distribution of eigenvalues of related elliptic operators. *Proc. Edinb. Math. Soc. (2)* **56**(3), 829–851 (2013)
713. Li, B.D., Fan, X.Y., Fu, Z.W., Yang, D.: Molecular characterization of anisotropic Musielak–Orlicz Hardy spaces and their applications. *Acta Math. Sin. (Engl. Ser.)* **32**(11), 1391–1414 (2016)
714. Maeda, F.-Y., Sawano, Y., Shimomura, T.: Some norm inequalities in Musielak–Orlicz spaces. *Ann. Acad. Sci. Fenn. Math.* **41**(2), 721–744 (2016)
715. Machihara, S., Ozawa, T.: Interpolation inequalities in Besov spaces. *Proc. Am. Math. Soc.* **131**(5), 1553–1556 (2003)
716. Markhasin, L.: Discrepancy of generalized Hammersley type point sets in Besov spaces with dominating mixed smoothness. *Unif. Distrib. Theory* **8**(1), 135–164 (2013)
717. Marschall, J.: Some remarks on Triebel spaces. *Studia Math.* **87**, 79–92 (1987)
718. Marschall, J.: On the boundedness and compactness of nonregular pseudo-differential operators. *Math. Nachr.* **175**, 231–262 (1995)
719. Lévy, J.V., Seuret, S.: The 2-microlocal formalism. In: *Fractal Geometry and Applications: A Jubilee of Benoit Mandelbrot*. *Proceedings of Symposium on Pure Mathematics*, vol. 72(2). AMS, Providence (2004)
720. Li, B., Bownik, M., Yang, D., Yuan, W.: Duality of weighted anisotropic Besov and Triebel–Lizorkin spaces. *Positivity* **16**(2), 213–244 (2012)
721. Li, B., Bownik, M., Yang, D., Yuan, W.: A mean characterization of weighted anisotropic Besov and Triebel–Lizorkin spaces. *Z. Anal. Anwend.* **33**(2), 125–147 (2014)
722. Li, P., Zhai, Z.: Generalized Navier–Stokes equations with initial data in local  $Q$ -type spaces. *J. Math. Anal. Appl.* **369**, 595–609 (2010)
723. Li, P., Zhai, Z.: Well-posedness and regularity of generalized Navier–Stokes equations in some critical  $Q$ -spaces. *J. Funct. Anal.* **259**, 2457–2519 (2010)
724. Liang, Y., Yang, D.: Intrinsic square function characterizations of Musielak–Orlicz Hardy spaces. *Trans. Am. Math. Soc.* **367**(5), 3225–3256 (2015)
725. Liang, Y., Yang, D., Jiang, R.: Weak Musielak–Orlicz Hardy spaces and applications. *Math. Nachr.* **289**(5–6), 634–677 (2016)
726. Liang, Y., Yang, D., Yang, S.: Applications of Orlicz–Hardy spaces associated with operators satisfying Poisson estimates. *Sci. China Math.* **54**, 2395–2426 (2011)
727. Liang, Y., Sawano, Y., Ullrich, T., Yang, D., Yuan, W.: New characterizations of Besov–Triebel–Lizorkin–Hausdorff spaces including coorbits and wavelets. *J. Fourier Anal. Appl.* **18**(5), 1067–1111 (2012)
728. Liang, Y., Sawano, Y., Ullrich, T., Yang, D., Yuan, W.: A new framework for generalized Besov-type and Triebel–Lizorkin-type spaces. *Diss. Math. (Rozprawy Mat.)* **489**, 1–114 (2013)

729. Lions, J.L.: Un théorème de traces. *Compt. Rend. Acad. Sci. Paris* **249**, 2259–2261 (1959)
730. Lions, J.L.: Sur certains théorèmes d'interpolation. *Compt. Rend. Acad. Sci. Paris* **250**, 2104–2106 (1960)
731. Lions, J.L.: Sur les espaces d'interpolation; dualité. *Math. Scand.* **9**, 147–177 (1961)
732. Lions, J.L.: Symétrie et compacité dans les espaces de Sobolev (French). *J. Funct. Anal.* **49**(3), 315–334 (1982)
733. Lions, J.L., Magnes, E.: Problemi ai limiti non omogenei III. *Ann. Scuola Norm. Sup. Pisa* **15**, 41–103 (1961)
734. Lions, J.L., Magnes, E.: Problèmes aux limites non homogènes, IV. *Ann. Scuola Norm. Sup. Pisa* **15**, 311–326 (1961)
735. Lions, J.L., Magnes, E.: Problemi ai limiti non omogenei V. *Ann. Scuola Norm. Sup. Pisa* **16**, 1–44 (1962)
736. Lions, J.L., Peetre, J.: Sur une classe d'espaces d'interpolation. *Inst. Hautes Études Sci. Publ. Math.* **19**, 5–68 (1964)
737. Littlewood, J.E.: On bounded bilinear forms in an infinite number of variables. *Quart. J. Math. Oxford* **1**, 164–174 (1930)
738. Littlewood, J.E., Paley, R.E.A.C.: Theorems on Fourier series and power series. Part I. *J. London Math. Soc.* **6**, 230–233 (1931)
739. Littlewood, J.E., Paley, R.E.A.C.: Theorems on Fourier series and power series. Part II. *J. London Math. Soc.* **42**, 52–89 (1936)
740. Littlewood, J.E., Paley, R.E.A.C.: Theorems on Fourier series and power series. Part III. *J. London Math. Soc.* **43**, 105–126 (1937)
741. Liu, L., Yang, D., Yuan, W.: Besov-type and Triebel-Lizorkin-type spaces associated with heat kernels. *Collect. Math.* **67**(2), 247–310 (2016)
742. Littman, W.: Multipliers in  $L^p$  and interpolation. *Bull. Am. Math. Soc.* **71**, 764–766 (1965)
743. Liu, H.: The weak  $H^p$  spaces on homogenous groups. In: Cheng, M.-T., Zhou, X.-W., Deng, D.-G. (eds.) *Harmonic Analysis*, Tianjin, 1988. *Lecture Notes in Mathematics*, vol. 1494, pp. 113–118. Springer, Berlin (1991)
744. Lizorkin, P.I.: Boundary properties of functions in weighted classes (Russian). *Dokl. Akad. Nauk SSSR* **132**, 514–517 (1960); English transl. in *Soviet Math. Dokl.* **1** (1960)
745. Lizorkin, P.I.: On Fourier multipliers in the space  $L_{p,\theta}$  (Russian). *Trudy Mat. Inst. Steklov* **89**, 231–248 (1967)
746. Lizorkin, P.I.: Operators connected with fractional derivatives and classes of differentiable functions. *Trudy Mat. Inst. Steklov* **117**, 212–243 (1972)
747. Lizorkin, P.I.: Generalized Hölder classes of functions in connection with fractional derivatives (Russian). *Trudy Mat. Inst. Steklov* **128**, 172–177 (1972)
748. Lizorkin, P.I.: Properties of functions of the spaces  $\Gamma_{p\theta}^r$ . *Trudy Mat. Inst. Steklov* **131**, 158–181 (1974)
749. Liu, J., Yang, D., Yuan, W.: Anisotropic Hardy-Lorentz spaces and their applications. *Sci. China Math.* **59**(9), 1669–1720 (2016)
750. Lorentz, G.: Some new functional spaces. *Ann. Math. (2)* **51**, 37–55 (1950)
751. Lorentz, G.: On the theory of spaces  $A$ . *Pac. J. Math.* **1**, 411–429 (1951)
752. Lu, S.Z., Yang, D.: Some Hardy spaces associated with the Herz spaces and their wavelet characterizations (in Chinese). *Beijing Shifan Daxue Xuebao (= J. Beijing Normal Univ. (Natur. Sci.))* **29**, 10–19 (1993)
753. Lu, S.Z., Yang, D.: The local versions of  $H^p(\mathbb{R}^n)$  spaces at the origin. *Studia Math.* **116**, 103–131 (1995)
754. Lu, S.Z., Yang, D.: Herz-type Sobolev and Bessel potential spaces and their applications. *Sci. China Ser. A* **40**, 113–129 (1997)
755. Lu, S.Z., Yang, D.: Multiplier theorems for Herz type Hardy spaces. *Proc. Am. Math. Soc.* **126**, 3337–3346 (1998)
756. Lu, Y.F., Yang, D., Yuan, W.: Interpolation of Morrey spaces on metric measure spaces. *Canad. Math. Bull.* **57**, 598–608 (2014)
757. Luxenberg, W.A.J.: Banach function spaces. Thesis, Delft (1955)

758. Macías, R.A., Segovia, C.: Lipschitz functions on spaces of homogeneous type. *Adv. Math.* **33**(3), 257–270 (1979)
759. Madych, W.R.: Absolute continuity of Fourier transforms on  $\mathbb{R}^n$ . *Indiana Univ. Math. J.* **25**, 467–479 (1976)
760. Malecka, A.: Haar functions in weighted Besov and Triebel–Lizorkin spaces. *J. Approx. Theory* **200**, 1–27 (2015)
761. Maligranda, L.: Marcinkiewicz interpolation theorem and Marcinkiewicz spaces. *Wlad. Math.* **48**(2), 157–171 (2012)
762. Maligranda, L., Sabourova, N.: Real and complex operator norms between quasi  $L^p$ - $L^q$  spaces. *Math. Ineq. Appl.* **14**(2), 247–270 (2011)
763. Marcinkiewicz, J.: Sur l'interpolation d'opérations. *C. R. Acad. Sci. Paris* **208**, 1272–1273 (1939)
764. Masaki, S.: Local existence and WKB approximation of solutions to Schrödinger-Poisson system in the two-dimensional whole space. *Commun. Partial Differ. Equ.* **35**(12), 2253–2278 (2010)
765. Matsumoto, T., Ogawa, T.: Interpolation inequality of logarithmic type in abstract Besov spaces and an application to semilinear evolution equations. *Math. Nachr.* **283**, 1810–1828 (2010)
766. Mauceri, G., Meda, S.: BMO and  $H^1$  for the Ornstein-Uhlenbeck operator. *J. Funct. Anal.* **252**(1), 278–313 (2007)
767. Mazzucato, A.L.: Decomposition of Besov–Morrey spaces. In: *Harmonic Analysis at Mount Holyoke*, South Hadley, 2001. Contemporary Mathematical, vol. 320, pp. 279–294. American Mathematical Society, Providence (2003)
768. Mazzucato, A.L.: Besov–Morrey spaces: function space theory and applications to nonlinear PDE. *Trans. Am. Math. Soc.* **355**(4), 1297–1364 (2003)
769. McIntosh, A.: Square roots of operators and applications to hyperbolic PDEs. In: *Proceedings of Centre for Mathematical Analysis*, vol. 5, pp. 124–136. Australian National University, Canberra (1984)
770. Meda, S., Sjögren, P., Vallarino, M.: On the  $H^1$ - $L^1$  boundedness of operators. *Proc. Am. Math. Soc.* **136**, 2921–2931 (2008)
771. Meskhi, A., Rafeiro, H., Muhammad, A.: Interpolation on variable Morrey spaces defined on quasi-metric measure spaces. *J. Funct. Anal.* **270**(10), 3946–3961 (2016)
772. Meyers, G.N.: Mean oscillation over cubes and Hölder continuity. *Proc. Am. Math. Soc.* **15**, 717–721 (1964)
773. Meyers, G.N., James, S.:  $H = W$ . *Proc. Nat. Acad. Sci. USA* **51**, 1055–1056 (1964)
774. Meyer, Y.: Remarques sur un théorème de J.-M. Bony. In: *Proceedings of the Seminar on Harmonic Analysis*, Pisa, 1980. *Rend. Circ. Mat. Palermo* (2) **suppl. 1**, 1–20 (1981)
775. Meyer, Y.: La Minimalité de l'Espace de Besov  $B_1^{0,1}$  et la Continuité des Opérateurs Définis par des Intégrales Singulières. *Monografias de Matematicas*, vol. 4. Universidad Autónoma de Madrid (1986)
776. Meyer, Y., Yang, Q.X.: Continuity of Calderón–Zygmund operators on Besov and Triebel–Lizorkin spaces. *Anal. Appl.* **6**(1), 51–81 (2008)
777. Meyer, Y., Xu, H.: Wavelet analysis and chirps. *Appl. Comput. Harmonic Anal.* **4**, 366–379 (1997)
778. Michlin, S.G.: *Singular Integral Equations*. American Mathematical Society Translation, vol. 24, pp. 1–116. American Mathematical Society, New York (1950)
779. Michlin, S.G.: On multipliers of Fourier integrals (Russian). *Dokl. Akad. Nauk. SSSR* **109**, 701–703 (1956)
780. Michlin, S.G.: Fourier integrals and multiple singular integrals (Russian). *Vestnik Leningrad, Univ. Mat. Meh. Astronom.* **7**, 143–155 (1957)
781. Mitrea M., Taylor, M.: Sobolev and Besov space estimates for solutions to second order PDE on Lipschitz domains in manifolds with Dini or Hölder continuous metric tensors. *Commun. PDE* **30**(1–3), 1–37 (2005)



782. Mironescu, P., Russ, E.: Traces of weighted Sobolev spaces. Old and new. *Nonlinear Anal.* **119**, 354–381 (2015)
783. Miyachi, A.: On some estimates for the wave equation in  $L^p$  and  $H^p$ . *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **27**(2), 331–354 (1980)
784. Miyachi, A.: Weak factorization of distributions in  $H^p$  spaces. *Pac. J. Math.* **115**(1), 165–175 (1984)
785. Miyachi, A.: Hardy–Sobolev spaces and maximal functions. *J. Math. Soc. Japan* **42**(1), 73–90 (1990)
786. Miyachi, A.: On the extension properties of Triebel–Lizorkin spaces. *Hokkaido Math. J.* **27**, 273–301 (1998)
787. Miyachi, A.: Weighted Hardy spaces on a domain. In: *Proceedings of the Second ISAAC Congress, Fukuoka, vol. 1*, pp. 59–64, 1999. International Society for Analysis, Applications and Computation, vol. 7. Kluwer Academic Publishers, Dordrecht (2000)
788. Miyachi, A.: Remarks on Herz-type Hardy spaces. *Acta Math. Sinica. English Series.* **17**, 339–360 (2001)
789. Miyachi, A.: Change of variables for weighted Hardy spaces on a domain. *Hokkaido Math. J.* **38**, 519–555 (2009)
790. Miyachi, A., Nicola, F., Rivetti, S., Tabacco, A., Tomita, N.: Estimates for unimodular Fourier multipliers on modulation spaces. *Proc. Am. Math. Soc.* **137**(11), 3869–3883 (2009)
791. Miyachi, A., Tomita, N.: Calderón–Vaillancourt-type theorem for bilinear operators. *Indiana Univ. Math. J.* **62**(4), 1165–1201 (2013)
792. Miyachi, A., Tomita, N.: Boundedness criterion for bilinear Fourier multiplier operators. *Tohoku Math. J.* **66**, 55–76 (2014)
793. Miyazaki, Y.: New proofs of the trace theorem of Sobolev spaces. *Proc. Japan Acad. Ser. A Math. Sci.* **84**(7), 112–116 (2008)
794. Miyazaki, Y.: Sobolev trace theorem and the Dirichlet problem in the unit disk. *Milan J. Math.* **82**(2), 297–312 (2014)
795. Miyazaki, Y.: Liouville’s theorem and heat kernels. *Expo. Math.* **33**, 101–104 (2015)
796. Mizuhara, T.: On Fourier multipliers of homogeneous Besov spaces. *Math. Nachr.* **133**, 155–161 (1987)
797. Mizuta, Y., Shimomura, T.: Sobolev’s inequality for Riesz potentials with variable exponent satisfying a log-Hölder condition at infinity. *J. Math. Anal. Appl.* **311**, 268–288 (2005)
798. Mizuta, Y., Shimomura, T.: Maximal functions, Riesz potentials and Sobolev’s inequality in generalized Lebesgue spaces. In: *Potential Theory in Matsue. Advanced Studies in Pure Mathematics*, vol. 44, pp. 255–281. Mathematical Society of Japan, Tokyo (2006)
799. Mizuta, Y., Ohno, T., Shimomura, T.: Sobolev’s inequalities and vanishing integrability for Riesz potentials of functions in the generalized Lebesgue space  $L^{p(\cdot)}(\log L)^{q(\cdot)}$ . *J. Math. Anal. Appl.* **345**(1), 70–85 (2008)
800. Mizuta, Y., Nakai, E., Ohno, T., Shimomura, T.: Maximal functions, Riesz potentials and Sobolev embeddings on Musielak–Orlicz–Morrey spaces of variable exponent in  $\mathbb{R}^n$ . *Rev. Mat. Complut.* **25**(2), 413–434 (2012)
801. Mizuta, Y., Nakai, E., Sawano, Y., Shimomura, T.: Littlewood–Paley theory for variable exponent Lebesgue spaces and Gagliardo–Nirenberg inequality for Riesz potentials. *J. Math. Soc. Japan* **65**(2), 633–670 (2013)
802. Moritoh, S.: Wavelet transforms in Euclidean spaces – their relation with wave frontsets and Besov, Triebel–Lizorkin spaces. *Tohoku Math. J.* **47**, 555–565 (1995)
803. Moritoh, S., Yamada, T.: Two-microlocal Besov spaces and wavelets. *Rev. Mat. Iberoam.* **20**, 277–283 (2004)
804. Morrey, C.B.: On the solutions of quasi linear elliptic partial differential equations. *Trans. Am. Math. Soc.* **43**, 126–166 (1938)
805. Morii, K., Sato, T., Sawano, Y.: Certain equalities concerning derivatives of radial homogeneous functions and a logarithmic function. *Commun. Math. Anal.* **9**(2), 51–66 (2010)
806. Morii, K., Sato, T., Sawano, Y., Wadade, H.: Sharp constants of Brézis–Gallouët–Wainger type inequalities with a double logarithmic term on bounded domains in Besov and Triebel–Lizorkin spaces. *Bound. Value Probl.*, Art. ID 584521, 1–38 (2010)

807. Morii, K., Sato, T., Wadade, H.: Brézis-Gallouët-Wainger type inequality with a double logarithmic term in the Hölder space: its sharp constants and extremal functions. *Nonlinear Anal.* **73**(6), 1747–1766 (2010)
808. Morii, K., Sato, T., Wadade, H.: Brézis-Gallouët-Wainger inequality with a double logarithmic term on a bounded domain and its sharp constants. *Math. Inequal. Appl.* **14**(2), 295–312 (2011)
809. Moura, S.D., Neves, J.S., Schneider, C.: On trace spaces of 2-microlocal Besov spaces with variable integrability. *Math. Nachr.* **286**(11–12), 1240–1254 (2013)
810. Moussai, M.: Realizations of homogeneous Besov and Triebel–Lizorkin spaces and an application to pointwise multipliers. *Anal. Appl. (Singap.)* **13**(2), 149–183 (2015)
811. Muckenhoupt, B.: Weighted norm inequalities for the Hardy maximal function. *Trans. Amer. Math. Soc.* **165**, 207–226 (1972)
812. Muckenhoupt, B.: The equivalence of two conditions for weight functions. *Studia Math.* **49**, 101–106 (1974)
813. Muckenhoupt, B., Wheeden, R.: Weighted bounded mean oscillation and the Hilbert transform. *Studia Math.* **54**, 221–237 (1976)
814. Müller, D.: Hardy space methods for nonlinear partial differential equations. *Tatra Mt. Math. Publ.* **4**, 159–168 (1994)
815. Müller, D., Yang, D.: A difference characterization of Besov and Triebel–Lizorkin spaces on RD-spaces. *Forum Math.* **21**(2), 259–298 (2009)
816. Muramatu, T.: On Besov spaces of functions defined in general regions. *Publ. Res. Inst. Math. Sci. Kyoto Univ.* **6**, 515–543 (1970/1971)
817. Muramatu, T.: On Besov spaces and Sobolev spaces of generalized functions defined on a general region. *Publ. Res. Inst. Math. Sci.* **9**, 325–396 (1973/1974)
818. Muramatu, T.: On the dual of Besov Spaces. *Publ. Res. Inst. Math. Sci.* **10**, 123–140 (1976)
819. Nagayasu, S., Wadade, H.: Characterization of the critical Sobolev space on the optimal singularity at the origin. *J. Funct. Anal.* **258**, 3725–3757 (2010)
820. Naibo, V.: On the bilinear Hormander classes in the scales of Triebel–Lizorkin and Besov spaces. *J. Fourier Anal. Appl.* **21**(5), 1077–1104 (2015)
821. Najafov, A.M.: Some properties of functions from the intersection of Besov–Morrey type spaces with dominant mixed derivatives. *Proc. A. Razmadze Math. Inst.* **139**, 71–82 (2005)
822. Najafov, A.M.: On some properties of the functions from Sobolev–Morrey type spaces. *Cent. Eur. J. Math.* **3**(3), 496–507 (2005)
823. Najafov, A.M.: Embedding theorems in the Sobolev–Morrey type spaces  $S_{p,a,\kappa,r}^l W(G)$  with dominant mixed derivatives. *Sib. Math. J.* **47**(3), 613–625 (2006)
824. Nakai, E.: Construction of an atomic decomposition for functions with compact support. *J. Math. Anal. Appl.* **313**, 730–737 (2006)
825. Nakai, E., Yabuta, K.: Pointwise multipliers for functions of bounded mean oscillation. *J. Math. Soc. Japan* **37**, 207–218 (1985)
826. Nakai, E., Sawano, Y.: Hardy spaces with variable exponents and generalized Campanato spaces. *J. Funct. Anal.* **262**, 3665–3748 (2012)
827. Nakai, E., Sawano, Y.: Orlicz-Hardy spaces and their duals. *Sci. China Math.* **57**(5), 903–962 (2014)
828. Nakai, E., Sobukawa, T.:  $B_w^u$ -function spaces and their interpolation. *Tokyo J. Math.* **39**(2), 483–517 (2016)
829. Nakamura, S.: Generalized weighted Morrey spaces and classical operators. *Math. Nachr.* **289**(17–18), 2235–2262 (2016)
830. Nakamura, S., Noi, T., Sawano, Y.: Generalized Morrey spaces and trace operator. *Sci. China Math.* **59**(2), 281–336 (2015)
831. Nakano, H.: *Modulared Semi-ordered Linear Spaces*. Maruzen Co. Ltd., Tokyo, i+288pp (1950)
832. Nakano, H.: *Topology of Linear Topological Spaces*. Maruzen Co. Ltd., Tokyo, viii+281pp (1951)

833. Nazarov, F., Treil, S., Volberg, A.: The  $Tb$ -theorem on non-homogeneous spaces. *Acta Math.* **190**(2), 151–239 (2003)
834. Nečas, J.: Sur une méthode pour résoudre les équations aux dérivées partielles du type elliptique, voisine de la variationnelle (French). *Ann. Scuola Norm. Sup. Pisa* (3) **16**, 305–326 (1962)
835. Netrusov, Y.V.: Some imbedding theorems for spaces of Besov–Morrey type (Russian). In: *Numerical Methods and Questions in the Organization of Calculations*, vol. 7. *Zap. Nauchn. Sem. Leningrad. Otdel. Mat. Inst. Steklov. (LOMI)* **139**, 139–147 (1984)
836. Netrusov, Y.V.: Embedding theorems for Lizorkin–Triebel spaces (Russian). *Zap. Nauchn. Sem. Leningrad. Otdel. Mat. Inst. Steklov. (LOMI)* **159**, 103–112 (1987)
837. Netrusov, Y.V.: Metric estimates for the capacities of sets in Besov spaces (Russian). Translated in *Proc. Steklov Inst. Math.* **1**, 167–192 (1992). *Theory of functions*, Amherd, 1987. *Trudy Mat. Inst. Steklov.* **190**, 159–185 (1989)
838. Netrusov, Y.V.: Sets of singularities of functions in spaces of Besov and Lizorkin–Triebel type (Russian). Translated in *Proc. Steklov Inst. Math.* **3**, 185–203 (1990). *Studies in the theory of differentiable functions of several variables and its applications*, vol. 13. *Trudy Mat. Inst. Steklov.* **187**, 162–177 (1989)
839. Netrusov, Y.V.: Theorems on traces and multipliers for functions in Lizorkin–Triebel spaces (Russian). *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **200**, *Kraev. Zadachi Mat. Fiz. Smezh. Voprosy Teor. Funktsii.* **24**, 132–138, 189–190 (1992); Translation in *J. Math. Sci.* **77**(3), 3221–3224 (1995)
840. Nguyen, V.K.: Bernstein numbers of embeddings of isotropic and dominating mixed Besov spaces. *Math. Nachr.* **288**(14–15), 1694–1717 (2015)
841. Nguyen, V.K., Sickel, W.: Weyl numbers of embeddings of tensor product Besov spaces. *J. Approx. Theory* **200**, 170–220 (2015)
842. Nguyen, V.K., Sickel, W.: Pointwise multipliers for Sobolev and Besov spaces of dominating mixed smoothness. *J. Math. Anal. Appl.* **452**(1), 62–90 (2017)
843. Nguyen, V.K., Sickel, W.: Pointwise multipliers for Besov spaces of dominating mixed smoothness II. *Sci. China Math.* **60**(11), 2241–2262 (2017)
844. Nguyen, V.K., Sickel, W.: On a problem of Jaak Peetre concerning pointwise multipliers of Besov spaces. *Studia Math.* **243**(2), 207–231 (2018)
845. Nikolski'i, S.M.: Inequalities for entire function of finite order and their application in the theory of differentiable functions of several variables (Russian). *Trudy Mat. Inst. Steklov* **38**, 244–278 (1951)
846. Nikolski'i, S.M.: On the solution of the polyharmonic equation by a variational method (Russian). *Dokl. Akad. Nauk SSSR* **88**, 409–411 (1953)
847. Nikolski'i, S.M.: Functions with dominant mixed derivative, satisfying a multiple Hölder condition, (Russian) *Sibirsk. Mat. Z.* **4**, 1342–1364 (1963)
848. Nikolski'i, S.M., Lions, J.L., Lizorkin, P.I.: Integral representation and isomorphism properties of some classes of functions. *Ann. Scuola Norm. Sup. Pisa* **19**, 127–178 (1965)
849. Nirenberg, L.: On elliptic partial differential equations. *Ann. Scuola Norm. Sup. Pisa* (3) **13**, 115–162 (1959)
850. Noi, T.: Duality of variable exponent Triebel–Lizorkin and Besov spaces. *J. Funct. Spaces Appl.* Article ID 361807, 1–19 (2012). <https://doi.org/10.1155/2012/361807>
851. Noi, T.: Trace and extension operators for Besov spaces and Triebel–Lizorkin spaces with variable exponents. *Rev. Mat. Complut.* **29**(2), 341–404 (2016)
852. Noi, T.: Trace operator for 2-microlocal Besov spaces with variable exponents. *Tokyo J. Math.* **39**(1), 293–327 (2016)
853. Noi, T., Sawano, Y.: Complex interpolation of Besov spaces and Triebel–Lizorkin spaces with variable exponents. *J. Math. Anal. Appl.* **387**, 676–690 (2012)
854. Novak, E., Triebel, H.: Function spaces in Lipschitz domains and optimal rates of convergence for sampling. *Constr. Approx.* **23**(3), 325–350 (2006)
855. Nursultanov, E.D., Ruzhansky, M., Tikhonov, S.Y.: Nikolskii inequality and functional classes on compact Lie groups. *Funct. Anal. Appl.* **49**(3), 226–229 (2015). Translated from *Funktsionalnyi Analiz i Ego Prilozheniya* **49**(3), 83–87 (2015)

856. Nualtaranee, S.: On least harmonic majorants in half-spaces. *Proc. London Math. Soc.* (3) **27**, 243–260 (1973)
857. Ogura, K.: On a certain transcendental integral function in the theory of interpolation. *Tohoku Math. J.* **17**, 64–72 (1920)
858. Ohno, T., Shimomura, T.: Musielak-Orlicz-Sobolev spaces on metric measure spaces. *Czechoslovak Math. J.* **65**(140), 435–474 (2015)
859. Orlicz, W.: Über konjugierte Exponentenfolgen. *Studia Math.* **3**, 200–212 (1931)
860. Oswald, P.: On the boundedness of the mapping  $f \rightarrow |f|$  in Besov spaces. *Comment. Univ. Carolinae* **33**, 57–66 (1992)
861. Päivärinta, L.: On the spaces  $L_p^A(l_q)$ : maximal inequalities and complex interpolation. *Ann. Acad. Sci. Fenn. Ser. AI Math. Dissertationes* 25, Helsinki (1980)
862. Päivärinta, L.: Equivalent quasi-norms and Fourier multipliers in the Triebel spaces  $F_{p,q}^s$ . *Math. Nachr.* **106**, 101–108 (1982)
863. Paley, R.E.A.C., Wiener, N., Zygmund, A.: Notes on random functions. *Math. Z.* **37**, 647–668 (1933)
864. Parilov, D.V.: Two theorems on the Hardy-Lorentz classes  $H^{1,q}$  (in Russian). *J. Math. Sci.* (N.Y.) **139**(2), 6447–6456 (2006)
865. Peetre, J.: Théorèmes de regularité pour quelques espaces d’opérateurs différentiels. Thèse, Lund (1959)
866. Peetre, J.: A theory of interpolation of normed spaces. *Notes Universidade de Brasilia* (1963)
867. Peetre, J.: Espaces d’interpolation et théorème de Soboleff (French). *Ann. Inst. Fourier (Grenoble)* **16**, 279–317 (1961)
868. Peetre, J.: Applications de la théorie des espaces d’interpolation dans l’analyse harmonique (French). *Ricerche Mat.* **15**, 3–36 (1966)
869. Peetre, J.: Interpolation i abstracta rum. *Lecture Notes. Lund* (1966)
870. Peetre, J.: Sur le espaces de Besov. *C. R. Acad. Sci. Paris. Sér. A–B* **264**, 281–283
871. Peetre, J.: On the theory of  $\mathcal{L}_{p,\lambda}$ . *J. Funct. Anal.* **4**, 71–87 (1969)
872. Peetre, J.: Remarques sur les espaces de Besov. Le cas  $0 < p < 1$ . *C. R. Acad. Sci. Paris Sér. A–B* **277**, 947–950 (1973)
873. Peetre, J.: Remark on the dual of an interpolation space. *Math. Scand.* **34**, 124–128 (1974)
874. Peetre, J.: On spaces of Triebel–Lizorkin-type. *Ark. Mat.* **13**, 123–130 (1975)
875. Peetre, J.: Correction to the paper: “On spaces of Triebel–Lizorkin-type” (*Ark. Mat.* **13**, 123–130 (1975)). *Ark. Mat.* **14**(2), 299 (1976)
876. Peetre, J.: The trace of Besov space—a limiting case. Technical report, Lund (1975)
877. Pérez, C.: Sharp  $L^p$ -weighted Sobolev inequalities. *Ann. Inst. Fourier (Grenoble)* **45**, 809–824 (1995)
878. Pick, L., Sickel, W.: Several types of intermediate Besov-Orlicz spaces. *Math. Nachr.* **164**, 141–165 (1993)
879. Pineda, E., Urbina, W.: Some results on Gaussian Besov-Lipschitz spaces and Gaussian Triebel–Lizorkin spaces. *J. Approx. Theory* **161**(2), 529–564 (2009)
880. Plancherel, M., Pólya, M.G.: Fonctions entières et intégrales de fourier multiples (French). *Comment. Math. Helv.* **10**(1), 110–163 (1937)
881. Planchon, F.: Self-similar solutions and semi-linear wave equations in Besov spaces. *J. Math Pures Appl.* **79**(8), 809–820 (2000)
882. Prömel, D.J., Trabs, M.: Rough differential equations driven by signals in Besov spaces. *J. Diff. Equations*, **260**(6), 5202–5249 (2016)
883. Quek, T., Yang, D.: Calderón–Zygmund-type operators on weighted weak Hardy spaces over  $\mathbb{R}^n$ . *Acta Math. Sin. (Engl. Ser.)* **16**, 141–160 (2000)
884. Ragusa, M.A.: Homogeneous Herz spaces and regularity results. *Nonlinear Anal.* **71**, 1–6 (2009)
885. Ragusa, M.A.: Parabolic Herz spaces and their applications. *Appl. Math. Lett.* **25**(10), 1270–1273 (2012)
886. Rauhut, H.: Banach frames in coorbit spaces consisting of elements which are invariant under symmetry groups. *Appl. Comput. Harmon. Anal.* **18**(1), 94–122 (2005)

887. Rauhut, H., Ullrich, T.: Generalized coorbit space theory and inhomogeneous function spaces of Besov–Lizorkin–Triebel type. *J. Funct. Anal.* **260**, 3299–3362 (2011)
888. Ricci, F., Taibleson, M.: Boundary values of harmonic functions in mixed norm spaces and their atomic structure. *Ann. Scuola Norm. Sup. Pisa Cl. Sci. (4)* **10**, 1–54 (1983)
889. Riesz, F.: Sur les valeurs moyennes des fonctions. *J. Lond. Math. Soc.* **5**, 120–121 (1930)
890. Riesz, M.: Sur les maxima des formes bilinéaires et sur les fonctionelles linéaires. *Acta Math.* **49**, 465–497 (1926)
891. Rivière, N., Sagher, Y.: On two theorems of Paley. *Proc. Am. Math. Soc.* **42**, 238–242 (1974)
892. Rochberg, R.R., Tachizawa, K.: Pseudodifferential operators, Gabor frames, and local trigonometric bases. In: *Gabor Analysis and Algorithms. Applied and Numerical Harmonic Analysis*, pp. 171–192. Birkhäuser, Boston (1998)
893. Rolewicz, S.: On a certain class of linear metric spaces. *Bull. Acad. Polon. Sci.* **5**, 471–473 (1957)
894. Rosenthal, M.: Local means, wavelet bases and wavelet isomorphisms in Besov–Morrey and Triebel–Lizorkin–Morrey spaces. *Math. Nachr.* **286**(1), 59–87 (2013)
895. Ruiz, A., Vega, L.: Corrigenda to unique continuation for Schrödinger operators with potential in Morrey spaces and a remark on interpolation of Morrey spaces. *Publ. Mat.* **39**, 405–411 (1995)
896. Runst, T.: Paradifferential operators in spaces of Triebel–Lizorkin and Besov type. *Z. Anal. Anwend.* **4**(6), 557–573 (1985)
897. Runst, T.: Pseudodifferential operators of the “exotic” class  $L^0_{1,1}$  in spaces of Besov and Triebel–Lizorkin-type. *Ann. Glob. Anal. Geom.* **3**, 13–28 (1985)
898. Runst, T.: Mapping properties of non-linear operators in spaces of Triebel–Lizorkin and Besov type. *Anal. Math.* **12**, 313–346 (1986)
899. Runst, T., Sickel, W.: On strong summability of Jacobi–Fourier-expansions and smoothness properties of functions. *Math. Nachr.* **99**, 77–85 (1980)
900. Rychkov, V.S.: On restrictions and extension of the Besov and Triebel–Lizorkin spaces with respect to Lipschitz domains. *J. London Math. Soc. (2)* **60**, 237–257 (1999)
901. Rychkov, V.S.: Intrinsic characterizations of distribution spaces on domains. *Studia Math.* **127**, 277–298 (1998)
902. Rychkov, V.S.: On a theorem of Bui, Paluszyński, and Taibleson. *Proc. Steklov Inst. Math.* **227**, 280–292 (1999)
903. Rychkov, V.S.: Intrinsic characterizations of distribution spaces on domains. *Studia Math.* **127**(3), 277–298 (1998)
904. Rychkov, V.S.: Littlewood–Paley theory and function spaces with  $A^{\text{loc}}_p$  weights. *Math. Nachr.* **224**, 145–180 (2001)
905. Saka, K.: Besov spaces and Sobolev spaces on a nilpotent Lie group. *Tohoku Math. J. (2)* **31**(4), 383–437 (1979)
906. Saka, K.: Scaling exponents of self-similar functions and wavelet analysis. *Proc. Am. Math. Soc.* **133**(4), 1035–1045 (2005)
907. Saka, K.: A new generalization of Besov-type and Triebel–Lizorkin-type spaces and wavelets. *Hokkaido Math. J.* **40**(1), 111–147 (2011)
908. Samko, S.: On a progress in the theory of Lebesgue spaces with variable exponent: maximal and singular operators. *Transf. Spec. Funct.* **16**(5–6), 461–482 (2005)
909. Sarason, D.: Functions of vanishing mean oscillation. *Trans. Am. Math. Soc.* **207**, 391–405 (1975)
910. Sato, S.: Littlewood–Paley operators and Sobolev spaces. *Illinois J. Math.* **58**(4), 1025–1039 (2014)
911. Sautbekova, M., Sickel, W.: Strong summability of Fourier series and Morrey spaces. *Anal. Math.* **40**(1), 31–62 (2014)
912. Sawada, O.: On time-local solvability of the Navier–Stokes equations in Besov spaces. *Adv. Diff. Eq.* **8**(4), 385–412 (2003)
913. Sawano, Y.: Sharp estimates of the modified Hardy–Littlewood maximal operator on the nonhomogeneous space via covering lemmas. *Hokkaido Math. J.* **34**, 435–458 (2005)

914. Sawano, Y.: Wavelet characterization of Besov–Morrey and Triebel–Lizorkin–Morrey spaces. *Funct. Approx. Comment. Math.* **38**, Part 1, 93–107 (2008)
915. Sawano, Y.: A Note on Besov–Morrey Spaces and Triebel–Lizorkin–Morrey Spaces. *Acta Math. Sinica*, **25**(8), 1223–1242 (2009)
916. Sawano, Y.: Identification of the image of Morrey spaces by the fractional integral operators. *Proc. A. Razmadze Math. Inst.* **149**, 87–93 (2009)
917. Sawano, Y.: Maximal operator for pseudodifferential operators with homogeneous symbols. *Michigan Math. J.* **59**(1), 119–142 (2010)
918. Sawano, Y.: Brézis–Gallouët–Wainger type inequality for Besov–Morrey spaces. *Studia Math.* **196**(1), 91–101 (2010)
919. Sawano, Y.: Besov–Morrey spaces and Triebel–Lizorkin–Morrey spaces on domains. *Math. Nachr.* **283**(10), 1456–1487 (2010)
920. Sawano, Y.: Atomic decompositions of Hardy spaces with variable exponents and its application to bounded linear operators. *Integr. Equ. Oper. Theory* **77**, 123–148 (2013)
921. Sawano, Y.: A new Brézis–Gallouët–Wainger inequality from the viewpoint of the real interpolation functors. *Math. Nachr.* **287**(2–3), 352–358 (2014)
922. Sawano, Y.: Survey homogeneous Besov spaces. *Kyoto J. Math.* (To appear)
923. Sawano, Y., Hakim, D.I., Gunawan, H.: Non-smooth atomic decomposition for generalized Orlicz–Morrey spaces. *Math. Nachr.* **288**(14–15), 1741–1775 (2015)
924. Sawano, Y., Sugano, S., Tanaka, H.: Generalized fractional integral operators and fractional maximal operators in the framework of Morrey spaces. *Trans. Am. Math. Soc.* **363**(12), 6481–6503 (2011)
925. Sawano, Y., Tanaka, H.: Decompositions of Besov–Morrey spaces and Triebel–Lizorkin–Morrey spaces. *Math. Z.* **257**(4), 871–905 (2007)
926. Sawano, Y., Tanaka, H.: The Fatou property of block spaces. *J. Math. Sci. Univ. Tokyo.* **22**, 663–683 (2015)
927. Sawano, Y., Ho, K.P., Yang, D., Yang, S.: Hardy spaces for ball Quasi-Banach function spaces. *Diss. Math.* **525**, 1–102 (2017)
928. Sawano, Y., Yang, D., Yuan, W.: New applications of Besov-type and Triebel–Lizorkin-type spaces. *J. Math. Anal. Appl.* **363**, 73–85 (2010)
929. Sawano, Y., Wadade, H.: On the Gagliardo–Nirenberg type inequality in the critical Sobolev–Morrey space. *J. Fourier Anal. Appl.* **19**, 20–47 (2013)
930. Scharf, B., Schmeisser, H.J., Sickel, W.: Traces of vector-valued Sobolev spaces. *Math. Nachr.* **285**(8–9), 1082–1106 (2012)
931. Schneider, C.: Trace operators in Besov and Triebel–Lizorkin spaces. *Z. Anal. Anwend.* **29**(3), 275–302 (2010)
932. Schmeisser, H.J.: On spaces of functions and distributions with mixed smoothness properties of Besov–Triebel–Lizorkin type. I. Basic properties. *Math. Nachr.* **98**, 233–250 (1980)
933. Schmeisser, H.J.: On spaces of functions and distributions with mixed smoothness properties of Besov–Triebel–Lizorkin type. II. Fourier multipliers and approximation representations. *Math. Nachr.* **106**, 187–200 (1982)
934. Schmeisser, H.J.: An unconditional basis in periodic spaces with dominating mixed smoothness properties. *Anal. Math.* **13**(2), 153–168 (1987)
935. Schmeisser, H.J.: Recent developments in the theory of function spaces with dominating mixed smoothness. In: *NAFSA Nonlinear Analysis, Function Spaces and Applications*, vol. 8, p. 144–204. Czech Academy of Sciences, Prague (2007)
936. Schmeisser, H.J., Sickel, W.: On strong summability of multiple Fourier series and smoothness properties of functions. *Anal. Math.* **8**(1), 57–70 (1982)
937. Schmeisser, H.J., Sickel, W.: On strong summability of multiple Fourier series and approximation of periodic functions. *Math. Nachr.* **133**, 211–236 (1987)
938. Schmeisser, H.J., Sickel, W.: Characterization of periodic function spaces via means of Abel–Poisson and Bessel-potential type. *J. Approx. Theory* **61**(2), 239–262 (1990)
939. Schmeisser, H.J., Sickel, W.: Spaces of functions of mixed smoothness and approximation from hyperbolic crosses. *J. Approx. Theory* **128**(2), 115–150 (2004)

940. Schott, T.: Function spaces with exponential weights I. *Math. Nachr.* **189**, 221–242 (1998)
941. Schott, T.: Function spaces with exponential weights II. *Math. Nachr.* **196**, 231–250 (1998)
942. Schott, T.: Pseudodifferential operators in function spaces with exponential weights. *Math. Nachr.* **200**, 119–149 (1999)
943. Seeger, A.: A note on Triebel–Lizorkin spaces. In: *Approximation and Function Spaces*. Banach Center Publications, vol. 22, pp. 391–400. PWN Polish Scientific Publishers, Warsaw (1989)
944. Semmes, S.: A primer on Hardy spaces, and some remarks on a theorem of Evans and Müller. *Commun. PDE* **19**, 277–319 (1994)
945. Semmes, S.: An introduction to analysis on metric spaces. *Notices Am. Math. Soc.* **50**(4), 438–443 (2003)
946. Serra, C.F.: Molecular characterization of Hardy–Orlicz spaces. *Rev. Un. Mat. Argentina* **40**, 203–217 (1996)
947. Shanmugalingam, N.: Newtonian spaces: an extension of Sobolev spaces to metric measure spaces. *Revista Matemática Iberoamericana* **16**(2), 243–279 (2000)
948. Shanmugalingam, N., Yang, D., Yuan, W.: Newton–Besov spaces and Newton–Triebel–Lizorkin spaces on metric measure spaces. *Positivity* **19**(2), 177–220 (2015)
949. Shen, Z.:  $L^p$  estimates for Schrödinger operators with certain potential. *Ann. Inst. Fourier (Grenoble)* **45**, 513–546 (1995)
950. Shi, C., Xu, J.S.: A characterization of Herz–Besov–Triebel spaces with variable exponent. *Acta Math. Sinica (Chin. Ser.)* **55**(4), 653–664 (2012)
951. Shi, C., Xu, J.S.: Herz type Besov and Triebel–Lizorkin spaces with variable exponent. *Front. Math. China* **8**(4), 907–921 (2013)
952. Sickel, W.: Periodic spaces and relations to strong summability of multiple Fourier series. *Math. Nachr.* **124**, 15–44 (1985)
953. Sickel, W.: On boundedness of superposition operators in spaces of Triebel–Lizorkin-type. *Czechoslovak Math. J.* **39**(2(114)), 323–347 (1989)
954. Sickel, W.: Spline representations of functions in Besov–Triebel–Lizorkin spaces on  $\mathbb{R}^n$ . *Forum Math.* **2**(5), 451–475 (1990)
955. Sickel, W.: A remark on orthonormal bases of compactly supported wavelets in Triebel–Lizorkin spaces. The case  $0 < p, q < \infty$ . *Arch. Math. (Basel)* **57**(3), 281–289 (1991)
956. Sickel, W.: Some remarks on trigonometric interpolation on the  $n$ -torus. *Z. Anal. Anwend.* **10**(4), 551–562 (1991)
957. Sickel, W.: Characterization of Besov–Triebel–Lizorkin spaces via approximation by Whitaker’s cardinal series and related unconditional Schauder bases. *Constr. Approx.* **8**(3), 257–274 (1992)
958. Sickel, W.: Pointwise multiplication in Triebel–Lizorkin spaces. *Forum Math.* **5**(1), 73–91 (1993)
959. Sickel, W.: Necessary conditions on composition operators acting on Sobolev spaces of fractional order. The critical case  $1 < s < n/p$ . *Forum Math.* **9**(3), 267–302 (1997)
960. Sickel, W.: Conditions on composition operators which map a space of Triebel–Lizorkin-type into a Sobolev space. The case  $1 < s < n/p$ . II. *Forum Math.* **10**(2), 199–231 (1998)
961. Sickel, W.: Necessary conditions on composition operators acting between Besov spaces. The case  $1 < s < n/p$ . III. *Forum Math.* **10**(3), 303–327 (1998)
962. Sickel, W.: On pointwise multipliers for  $F_{p,q}^s(\mathbb{R}^n)$  in case  $\sigma_{p,q} < s < n/p$ . *Ann. Mat. Pura Appl.* **176**, 209–250 (1999)
963. Sickel, W.: Pointwise multipliers for Lizorkin–Triebel spaces. *Oper. Theory Adv. Appl.* **110**, 295–321 (1999)
964. Sickel, W.: Smoothness spaces related to Morrey spaces—a survey I. *Eurasian Math. J.* **3**(3), 110–149 (2012)
965. Sickel, W.: Smoothness spaces related to Morrey spaces—a survey II. *Eurasian Math. J.* **4**(1), 82–124 (2013)
966. Sickel, W., Skrzypczak, L.: Radial subspaces of Besov and Lizorkin–Triebel classes: extended Strauss lemma and compactness of embeddings. *J. Fourier Anal. Appl.* **6**(6), 639–662 (2000)

967. Sickel, W., Skrzypczak, L.: On the interplay of regularity and decay in case of radial functions II. Homogeneous spaces. *J. Fourier Anal. Appl.* **18**(3), 548–582 (2012)
968. Sickel, W., Skrzypczak, L., Vybíral, J.: On the interplay of regularity and decay in case of radial functions I. Inhomogeneous spaces. *Commun. Contemp. Math.* **14**(1), Art ID. 1250005, 1–60 (2012)
969. Sickel, W., Skrzypczak, L., Vybíral, J.: Complex interpolation of weighted Besov and Lizorkin-Triebel spaces. *Acta Math. Sin. (Engl. Ser.)* **30**(8), 1297–1323 (2014)
970. Sickel, W., Triebel, H.: Hölder inequalities and sharp embeddings in function spaces of  $B_{pq}^s$  and  $F_{pq}^s$  type. *Z. Anal. Anwend.* **14**(1), 105–140 (1995)
971. Sierpinski, W.: Sur une courbe dont tout point est un point de ramification. *C. R. Acad. Paris* **160**, 302 (1915)
972. Sierpinski, W.: Sur une courbe cantorienne qui contient une image biunivoque et continue de toute courbe donnée. *C. R. Acad. Paris* **162**, 629–632 (1916)
973. Sjöstrand, J.: An algebra of pseudodifferential operators. *Math. Res. Lett.* **1**(2), 185–192 (1994)
974. Sjöstrand, J.: Wiener type algebras of pseudodifferential operators. In *Séminaire sur les Équations aux Dérivées Partielles, 1994–1995, Exp. No. IV. École Polytech., Palaiseau* (1995)
975. Skrzypczak, L.: Traces of function spaces of  $F_{p,q}^s - B_{p,q}^s$  type on submanifolds. *Math. Nachr.* **146**, 137–147 (1990)
976. Skrzypczak, L.: Function spaces of Sobolev type on Riemannian symmetric manifolds. *Forum Math.* **3**(4), 339–353 (1991)
977. Skrzypczak, L.: Remark on pointwise multipliers for Triebel scales on Riemannian manifolds. *Funct. Approx. Comment. Math.* **21**, 3–6 (1992)
978. Skrzypczak, L.: Besov spaces and function series on Lie groups. *Comment. Math. Univ. Carolin.* **34**(1), 139–147 (1993)
979. Skrzypczak, L.: Vector-valued Fourier multipliers on symmetric spaces of the noncompact type. *Monatsh. Math.* **119**(1–2), 99–123 (1995)
980. Skrzypczak, L.: Some equivalent norms in Sobolev-Besov spaces on symmetric Riemannian manifolds. *J. Lond. Math. Soc. (2)* **53**(3), 569–581 (1996)
981. Skrzypczak, L.: Heat semi-group and function spaces on symmetric spaces on non-compact type. *Z. Anal. Anwend.* **15**(4), 881–899 (1996)
982. Skrzypczak, L.: Besov spaces on symmetry manifolds. *Hokkaido Math. J.* **25**(2), 231–247 (1996)
983. Skrzypczak, L.: Besov spaces on symmetric manifolds—the atomic decomposition. *Studia Math.* **124**(3), 215–238 (1997)
984. Skrzypczak, L.: Atomic decompositions on manifolds with bounded geometry. *Forum Math.* **10**(1), 19–38 (1998)
985. Skrzypczak, L.: On Besov spaces and absolute convergence of the Fourier transform on Heisenberg groups. *Comment. Math. Univ. Carolin.* **39**(4), 755–763 (1998)
986. Skrzypczak, L.: Heat and harmonic extensions for function spaces of Hardy–Sobolev–Besov type on symmetric spaces and Lie groups. *J. Approx. Theory* **96**(1), 149–170 (1999)
987. Skrzypczak, L.: Besov spaces and Hausdorff dimension for some Carnot–Carathéodory metric spaces. *Canad. J. Math.* **54**(6), 1280–1304 (2002)
988. Skrzypczak, L.: Rotation invariant subspaces of Besov and Triebel–Lizorkin space: compactness of embeddings, smoothness and decay of functions. *Rev. Mat. Iberoamericana* **18**(2), 267–299 (2002)
989. Skrzypczak, L.: Heat extensions, optimal atomic decompositions and Sobolev embeddings in presence of symmetries on manifolds. *Math. Z.* **243**(4), 745–773 (2003)
990. Skrzypczak, L.: Entropy numbers of Trudinger–Strichartz embeddings of radial Besov spaces and applications. *J. Lond. Math. Soc. (2)* **69**(2), 465–488 (2004)
991. Skrzypczak, L.: On approximation numbers of Sobolev embeddings of weighted function spaces. *J. Approx. Theory* **136**(1), 91–107 (2005)



992. Skrzypczak, L.: Approximation and entropy numbers of compact Sobolev embeddings. In: Approximation and Probability. Banach Center Publications, vol. 72, pp. 309–326. Polish Academy of Sciences, Warsaw (2006)
993. Skrzypczak, L.: Wavelet frames, Sobolev embeddings and negative spectrum of Schrodinger operators on manifolds with bounded geometry. *J. Fourier Anal. Appl.* **14**(3), 415–442 (2008)
994. Skrzypczak, L., Tomasz, B.: Approximation numbers of Sobolev embeddings of radial functions on isotropic manifolds. *J. Funct. Spaces Appl.* **5**(1), 27–48 (2007)
995. Skrzypczak, L., Tomasz, B.: Entropy of Sobolev embeddings of radial functions and radial eigenvalues of Schrodinger operators on isotropic manifolds. *Math. Nachr.* **280**(5–6), 654–675 (2007)
996. Skrzypczak, L., Tomasz, B.: Remark on borderline traces of Besov and Triebel–Lizorkin spaces on noncompact hypersurfaces. *Comment. Math.* **53**(2), 293–309 (2013)
997. Skrzypczak, L., Vybiral, J.: Corrigendum to the paper: “On approximation numbers of Sobolev embeddings of weighted function spaces” [*J. Approx. Theory* **136** 91–107 (2005)] [165121]. *J. Approx. Theory* **156**(1), 116–119 (2009)
998. Slobodeckij, L.N.: Generalized Sobolev spaces and their applications to boundary value problems of partial differential equations (Russian). *Leningrad. Gos. Ped. Inst. Učep. Zap.* **197**, 54–112 (1958)
999. Smith, K.T.: Inequalities for formally positive integro-differential forms. *Bull. Am. Math. Soc.* **67**, 368–370 (1961)
1000. Sobolev, S.L.: The Cauchy problem in a function space (Russian). *Dokl. Akad. Nauk. SSSR* **3**, 291–294 (1935)
1001. Sobolev, S.L.: Méthode nouvelle à résoudre le problème de Cauchy pour les équations linéaires hyperboliques normales. *Math. Sb.* **1**, 39–72 (1936)
1002. Sobolev, S.L.: On a theorem of functional analysis (Russian). *Math. Sb.* **4**, 471–497 (1938)
1003. Sobolev, S.L.: The density of compactly supported functions in the space  $L_p^{(m)}(E^n)$  (Russian). *Sibirsk. Mat. Z.* **4**, 673–682 (1963)
1004. Solncev, J.K.: On the estimation of a mixed derivative in  $L_p(G)$ . *Trudy Mat. Inst. Steklov* **64**, 211–238 (1961). English translation in *Am. Math. Soc. Transl. (2)* **79** (1969)
1005. Song, L., Yan, L.: Riesz transforms associated to Schrödinger operators on weighted Hardy spaces. *J. Funct. Anal.* **259**, 1466–1490 (2010)
1006. Stafney, J.D.: Analytic interpolation of certain multiplier spaces. *Pac. J. Math.* **32**, 241–248 (1970)
1007. Stampacchia, G.: The spaces  $\mathcal{L}^{(p,\lambda)}$ ,  $N^{(p,\lambda)}$  and interpolation. *Ann. Sc. Norm. Super. Pisa Cl. Sci.* **19**(3), 443–462 (1965)
1008. Stein, E.M.: Note on singular integrals. *Proc. Am. Math. Soc.* **8**, 250–254 (1957)
1009. Stein, E.M.: On the functions of Littlewood–Paley, Lusin, and Marcinkiewicz. *Trans. Am. Math. Soc.* **88**, 430–466 (1958)
1010. Stein, E.M., Weiss, G.: On the theory of harmonic functions of several variables: I. The theory of  $H^p$ -spaces. *Acta Math.* **103**, 25–62 (1960)
1011. Strauss, W.A.: Existence of solitary waves in higher dimensions. *Commun. Math. Phys.* **55**, 149–162 (1977)
1012. Strichartz, R.S.: Multipliers on fractional Sobolev spaces. *J. Math. Mech.* **16**, 1031–1060 (1967)
1013. Strichartz, R.S.: Fubini-type theorems. *Annali Scuola Norm. Sup. Pisa* **22**, 399–408 (1968)
1014. Strichartz, R.S.: Restriction of Fourier transform to quadratic surfaces and decay of solutions of wave equations. *Duke Math. J.* **44**, 705–713 (1977)
1015. Strömberg, J.O.: Bounded mean oscillation with Orlicz norms and duality of Hardy spaces. *Indiana Univ. Math. J.* **28**, 511–544 (1979)
1016. Strömberg, J.O., Torchinsky, A.: Weighted Hardy Spaces. *Lecture Notes in Mathematics*, vol. 1381. Springer, Berlin/New York (1989)
1017. Sturm, K.T.: On the geometry of metric measure spaces. I. *Acta Math.* **196**(1), 65–131 (2006)

1018. Sturm, K.T.: On the geometry of metric measure spaces. II. *Acta Math.* **196**(1), 133–177 (2006)
1019. Sugimoto, M.: Pseudo-differential operators on Besov spaces. *Tsukuba J. Math.* **12**, 43–63 (1988)
1020. Sugimoto, M., Tomita, N.: The dilation property of modulation spaces and their inclusion with Besov spaces. *J. Funct. Anal.* **248**(1), 79–106 (2007)
1021. Sugimoto, M., Tomita, N.: A counterexample for boundedness of pseudo-differential operators on modulation spaces. *Proc. Am. Math. Soc.* **136**(5), 1681–1690 (2008)
1022. Sugimoto, M., Tomita, N.: Boundedness properties of pseudo-differential operators and Calderón–Zygmund operators on modulation spaces. *J. Fourier Anal. Appl.* **14**(1), 124–143 (2008)
1023. Sugimoto, M., Tomita, N., Wang, B.: Remarks on nonlinear operations on modulation spaces. *Integral Transf Spec. Funct.* **22**(4–5), 351–358 (2011)
1024. Tachizawa, K.: The boundedness of pseudodifferential operators on modulation spaces. *Math. Nachr.* **168**, 263–277 (1994)
1025. Tachizawa, K.: The pseudodifferential operators and Wilson bases. *J. Math. Pures Appl.* (9) **75**(6), 509–529 (1996)
1026. Taibleson, M.H.: On the theory of Lipschitz spaces of distributions on Euclidean  $n$ -space. I. Principal properties. *J. Math. Mech.* **13**, 407–479 (1964)
1027. Taibleson, M.H., Weiss, G.: The molecular characterization of certain Hardy spaces. *Astérisque* **77**, 67–149 (1980)
1028. Takada, R.: Counterexamples of commutator estimates in the Besov and the Triebel–Lizorkin spaces related to the Euler equations. *SIAM J. Math. Anal.* **42**, 2473–2483 (2010)
1029. Tang, L.: Weighted local Hardy spaces and their applications. *Illinois J. Math.* **56**(2), 453–495 (2012)
1030. Tang, L., Yang, D.: Boundedness of vector-valued operators on weighted Herz spaces. *Approx. Theory Appl.* (N.S.) **16**(2), 58–70 (2000)
1031. Tang, L., Xu, J.S.: Some properties of Morrey type Besov–Triebel spaces. *Math. Nachr.* **278**, 904–917 (2005)
1032. Thorin, G.O.: An extension of a convexity theorem due to M. Riesz, *Kungl. Fysiografiska Sällskapet i Lund Förhandlingar* **8**(14), 166–170 (1938); *Medd. Lunds Univ. Mat. Sem.* **4**, 1–5 (1939)
1033. Toft, J.: Continuity properties for modulation spaces, with applications to pseudo-differential calculus—I. *J. Funct. Anal.* **207**, 399–429 (2004)
1034. Toft, J.: Continuity and Schatten properties for pseudo-differential operators on modulation spaces. *Oper. Theory Adv. Appl.* **172**, 173–206 (2006)
1035. Tomita, N.: On the Hörmander multiplier theorem and modulation spaces. *Appl. Comput. Harmon. Anal.* **26**(3), 408–415 (2009)
1036. Torres, R.H.: Continuity properties of pseudodifferential operators of type 1, 1. *Commun. PDE* **15**(9), 1313–1328 (1990)
1037. Torres, R.H.: Boundedness results for operators with singular kernels on distribution spaces. *Mem. Am. Math. Soc.* **90**(442), viii+172 (1991)
1038. Torres, R.H., Ward, E.L.: Leibniz’s rule, sampling and wavelets on mixed Lebesgue spaces. *J. Fourier Anal. Appl.* **21**(5), 1053–1076 (2015)
1039. Triebel, H.: Spaces of distributions of Besov type on Euclidean  $n$ -space. Duality, interpolation. *Ark. Mat.* **11**, 13–64 (1973)
1040. Triebel, H.: A remark on embedding theorems for Banach spaces of distributions. *Ark. Mat.* **11**, 65–74 (1973)
1041. Triebel, H.: Interpolation theory for function spaces of Besov type defined in domains. I. *Math. Nachr.* **57**, 51–85 (1973)
1042. Triebel, H.: Interpolation theory for function spaces of Besov type defined in domains. II. *Math. Nachr.* **58**, 63–86 (1973)
1043. Triebel, H.: Spaces of Kudrjavcev type I. *J. Math. Anal. Appl.* **56**, 253–277 (1976)
1044. Triebel, H.: Spaces of Kudrjavcev type II. *J. Math. Anal. Appl.* **56**, 278–287 (1976)

1045. Triebel, H.: General function spaces. I. Decomposition methods. *Math. Nachr.* **79**, 167–179 (1977)
1046. Triebel, H.: General function spaces. II. Inequalities of Plancherel–Pólya–Nikolski’j-type,  $L_n$ -spaces of analytic functions,  $0 < p \leq \infty$ . *J. Approx. Theory* **19**(2), 154–175 (1977)
1047. Triebel, H.: General function spaces. III. Spaces  $B_{p,q}^{g(x)}$  and  $F_{p,q}^{g(x)}$ ,  $1 < p < \infty$ : basic properties. *Anal. Math.* **3**(3), 221–249 (1977)
1048. Triebel, H.: General function spaces. IV. Spaces  $B_{p,q}^{g(x)}$  and  $F_{p,q}^{g(x)}$ ,  $1 < p < \infty$ : special properties. *Anal. Math.* **3**(4), 299–315 (1977)
1049. Triebel, H.: Multiplication properties of the spaces  $B_{p,q}^s$  and  $F_{p,q}^s$ . *Quasi-Banach Algebras of functions*. *Ann. Mat. Pura Appl.* (4) **113**, 33–42 (1977)
1050. Triebel, H.: On spaces of  $B_{\infty,q}^s$  type and  $\mathcal{C}^s$  type. *Math. Nachr.* **85**, 75–90 (1978)
1051. Triebel, H.: A note on quasi-normed convolution algebras of entire analytic functions of exponential type. *J. Approx. Theory* **22**, 368–373 (1978)
1052. Triebel, H.: On Haar basis in Besov spaces. *Serdica* **4**(4), 330–343 (1978)
1053. Triebel, H.: On Besov-Hardy-Sobolev spaces in domains and regular elliptic boundary value problems. The case  $0 < p \leq \infty$ . *Commun. PDE* **3**, 1083–1164 (1978)
1054. Triebel, H.: Theorems of Littlewood–Paley type for BMO and for anisotropic Hardy spaces. In: *Constructive Function Theory*, vol. 77, pp. 525–532. Publishing House of the Bulgarian Academy of Sciences, Sofia (1980)
1055. Triebel, H.: On  $L_p(l_q)$ -spaces of entire analytic functions of exponential type: complex interpolation and Fourier multipliers. The case  $0 < p < \infty$ ,  $0 < q < \infty$ . *J. Approx. Theory* **28**(4), 317–328 (1980)
1056. Triebel, H.: On the spaces  $F_{p,q}^s$  of Hardy-Sobolev type: Equivalent quasinorms, multipliers, spaces on domains, regular elliptic boundary value problems. *Commun. PDE* **5**, 245–291 (1980)
1057. Triebel, H.: Complex interpolation and Fourier multipliers for the spaces  $B_{p,q}^s$  and  $F_{p,q}^s$  of Besov-Hardy-Sobolev type: the case  $0 < p \leq \infty$ ,  $0 < q \leq \infty$ . *Math. Z.* **176**(4), 495–510 (1981)
1058. Triebel, H.: Characterizations of Besov-Hardy-Sobolev spaces via harmonic functions, temperatures and related means. *J. Approx. Theory* **35**, 275–297 (1982)
1059. Triebel, H.: Anisotropic function spaces. I: Hardy’s inequality, decompositions. *Anal. Math.* **10**, 53–77 (1984)
1060. Triebel, H.: Spaces of Besov-Hardy-Sobolev type on complete Riemannian manifolds. *Ark. Mat.* **24**, 299–337 (1986)
1061. Triebel, H.: Characterizations of function spaces on a complete Riemannian manifold with bounded geometry. *Math. Nachr.* **130**, 321–346 (1987)
1062. Triebel, H.: Function spaces on Lie groups, the Riemannian approach. *J. London Math. Soc.* (2) **35**(2), 327–338 (1987)
1063. Triebel, H.: Characterization of Besov-Hardy-Sobolev spaces: a unified approach. *J. Approx. Theory* **52**, 162–203 (1988)
1064. Triebel, H.: Diffeomorphism properties and pointwise multipliers for function spaces. In: *Function Spaces. Proceedings of Conference, Poznań, 1986*. Teubner-Texte Mathematics, vol. 103, pp. 75–84. Teubner, Leipzig (1988)
1065. Triebel, H.: Atomic representations of  $F_{p,q}^s$  spaces and Fourier integral operators. In: *Seminar Analysis Karl–Weierstrass Institute 1986/87*. Teubner-Texte Math., vol. 106, pp. 297–305. Teubner, Leipzig (1988)
1066. Triebel, H.: How to measure smoothness of distributions on Riemannian symmetric manifolds and Lie groups. *Z. Anal. Anwend.* **7**, 471–480 (1988)
1067. Triebel, H.: Local approximation spaces. *Z. Anal. Anwend.* **8**, 261–288 (1989)
1068. Triebel, H.: Atomic decompositions of  $F_{p,q}^s$  spaces. Applications to exotic pseudodifferential and Fourier integral operators. *Math. Nachr.* **144**, 189–222 (1989)
1069. Triebel, H.: Inequalities in the theory of function spaces: a tribute to Hardy, Littlewood and Polya. In: *Inequalities. Proceedings of Conference Birmingham (UK)*. Lecture Notes Applications in Mathematics, vol. 119, pp. 231–248. Marcel Dekker, New York (1991)

1070. Triebel, H.: A localization property for  $B_{pq}^s$  and  $F_{pq}^s$  spaces. *Studia Math.* **109**(2), 183–195 (1994)
1071. Triebel, H.: Decompositions of function spaces. *Progress Nonlinear Diff. Equ. Appl.* **35**, 691–730 (1999)
1072. Triebel, H.: Truncations of functions. *Forum Math.* **12**(6), 731–756 (2000)
1073. Triebel, H.: Regularity theory for some semi-linear equations: the Q-method. *Forum Math.* **13**(1), 1–19 (2001)
1074. Triebel, H.: Function spaces in Lipschitz domains and on Lipschitz manifolds. Characteristic functions as pointwise multipliers. *Rev. Mat. Complut.* **15**(2), 475–524 (2002)
1075. Triebel, H.: Lacunary measures and self-similar probability measures in function spaces. *Acta Math. Sin. (Engl. Ser.)* **20**(4), 577–588 (2004)
1076. Triebel, H.: Approximation numbers in function spaces and the distribution of eigenvalues of some fractal elliptic operators. *J. Approx. Theory* **129**(1), 1–27 (2004)
1077. Triebel, H.: A new approach to function spaces on quasi-metric spaces. *Rev. Mat. Complut.* **18**(1), 7–48 (2005)
1078. Triebel, H.: Wavelet para-bases and sampling numbers in function spaces on domains. *J. Complexity* **23**, 468–497 (2007)
1079. Triebel, H.: Wavelet bases in Lorentz and Zygmund spaces. *Georgian Math. J.* **15**(2), 389–402 (2008)
1080. Triebel, H.: The dichotomy between traces on  $d$ -sets  $\Gamma$  in  $\mathbb{R}^n$  and the density of  $\mathcal{D}(\mathbb{R}^n, \Gamma)$  in function spaces. *Acta Math. Sin. (Engl. Ser.)* **24**(4), 539–554 (2008)
1081. Triebel, H.: Sobolev-Besov spaces of measurable functions. *Studia Math.* **201**, 69–86 (2010)
1082. Triebel, H.: Limits of Besov norms. *Arch. Math. (Basel)* **96**(2), 169–175 (2011)
1083. Triebel, H.: Entropy numbers in function spaces with mixed integrability. *Rev. Mat. Complut.* **24**(1), 169–188 (2011)
1084. Triebel, H.: Entropy and approximation numbers of limiting embeddings; an approach via Hardy inequalities and quadratic forms. *J. Approx. Theory* **164**(1), 31–46 (2012)
1085. Triebel, H.: Characterizations of some function spaces in terms of Haar wavelets. *Comment. Math.* **53**(2), 135–153 (2013)
1086. Triebel, H., Winkelvoss, H.: Intrinsic atomic characterizations of function spaces on domains. *Math. Z.* **221**(4), 647–673 (1996)
1087. Tsutsui, Y.: Pseudo-differential operators of class  $S_{0,0}^m$  on the Herz-type spaces. *Hokkaido Math. J.* **38**(2), 283–302 (2009)
1088. Tsutsui, Y.: Sharp maximal inequalities and its application to some bilinear estimates. *J. Fourier Anal. Appl.* **17**(2), 265–289 (2011)
1089. Tuominen, H.: Orlicz-Sobolev spaces on metric measure spaces. Dissertation, University of Jyväskylä, Jyväskylä, 2004. *Ann. Acad. Sci. Fenn. Math. Diss. No.* **135**, 1–86 (2004)
1090. Tyulenev, A.I.: Traces of weighted Sobolev spaces with Muckenhoupt weight. The case  $p = 1$ . *Nonlinear Anal.* **128**, 248–272 (2015)
1091. Uchiyama, A.: A constructive proof of the Fefferman–Stein decomposition of  $BMO(\mathbb{R}^n)$ . *Acta. Math.* **148**, 215–241 (1982)
1092. Ullrich, T.: Continuous characterizations of Besov–Lizorkin–Triebel spaces and new interpretations as coorbits. *J. Funct. Space Appl.*, Article ID 163213, 1–47 (2010)
1093. Ullrich, T.: Optimal cubature in Besov spaces with dominating mixed smoothness on the unit square. *J. Complexity* **30**(2), 72–94 (2014)
1094. Uspenskii, S.V.: An embedding theorem for the fractional order classes of S.L. Sobolev. *Dokl. Akad. Nauk SSSR* **130**, 992–993 (1960) (Russian); English transl. in *Soviet Math. Dokl.* **1** (1960)
1095. Uspenskii, S.V.: Properties of the classes  $W_p^{(r)}$  with fractional derivatives on differentiable manifolds (Russian). *Dokl. Akad. Nauk SSSR* **132**, 60–62 (1960); English transl. in *Soviet Math. Dokl.* **1** (1960)
1096. Uspenskii, S.V.: Imbedding theorems for classes with weights (Russian). *Trudy Mat. Inst. Steklov.* **60**, 282–303 (1961)
1097. Vitali, G.: Sui gruppi di punti e sulle funzioni di variabili reali. *Torino Att* **43**, 229–246 (1908)

1098. Vignati, T.A.: Complex interpolation for families of quasi-Banach spaces. *Indiana Univ. Math. J.* **37**, 1–21 (1988)
1099. Viviani, B.E.: An atomic decomposition of the predual of  $BMO(\rho)$ . *Rev. Mat. Ibero.* **3**, 401–425 (1987)
1100. Volevic, L.R., Panejah, B.P.: Some spaces of generalized functions and embedding theorem. *Usp. Mat. Nauk.* **20**(1), 3–74 (1965)
1101. Vodop'yanov, S.K., Gol'dstein, V.M., Latfullin, T.G.: A criterion for the extension of functions of class  $L^1_2$ , from unbounded plane domains. *Sibirsk. Mat. Zh.* **20**, 416–419 (1979). English transl. in *Siberian Math. J.* **20** (1979)
1102. Vodop'yanov, S.K., Gol'dstein, V.M., Reshetnyak, Y.G.: Geometric properties of functions with generalized first derivatives. *Uspekhi Mat. Nauk* **34**(1(205)), 17–65 (1979). English transl. in *Russian Math. Surveys* **34** (1979)
1103. Vybíral, J.: Function spaces with dominating mixed smoothness. *Diss. Math. (Rozprawy Mat.)* **436**, 1–73 (2006)
1104. Vybíral, J.: A new proof of Jawerth–Franke embedding. *Rev. Mat. Complut.* **21**(1), 75–82 (2008)
1105. Vybíral, J.: On sharp embeddings of Besov and Triebel–Lizorkin spaces in the subcritical case. *Proc. Am. Math. Soc.* **138**(1), 141–146 (2010)
1106. Vybíral, J., Sickel, W.: Traces of functions with a dominating mixed derivative in  $\mathbb{R}^3$ . *Czechoslovak Math. J.* **57**(4(132)), 1239–1273 (2007)
1107. Wang, B., Huang, C.: Frequency-uniform decomposition method for the generalized BO, KdV and NLS equations. *J. Differ. Equ.* **239**(1), 213–250 (2007)
1108. Wang, H.: Decomposition for Morrey type Besov–Triebel spaces. *Math. Nachr.* **282**(5), 774–787 (2009)
1109. Wang, H., Jia, H.: Singular integral operator, Hardy–Morrey space estimates for multilinear operators and Navier Stokes equations. *Math. Methods Appl. Sci.* **33**(14), 1661–1684 (2010)
1110. Weimar, M.: Almost diagonal matrices and Besov-type spaces based on wavelet expansions. *J. Fourier Anal. Appl.* **22**(2), 251–284 (2016)
1111. Whitney, H.: Analytic extensions of differentiable functions defined in closed sets. *Trans. Am. Math. Soc.* **36**(1), 63–89 (1934)
1112. Wiener, N.: The ergodic theorem. *Duke Math. J.* **5**, 1–18 (1939)
1113. Wilson, M.: A simple proof of the atomic decomposition for  $H^p(\mathbb{R}^n)$ ,  $0 < p \leq 1$ . *Studia Math.* **74**(1), 25–33 (1982)
1114. Wilson, M.: The intrinsic square function. *Rev. Mat. Ibero.* **23**(3), 771–791 (2007)
1115. Wojciechowska, A.: Local means and wavelets in function spaces with local Muckenhoupt weights. In: *Function Spaces IX*. Banach Center Publications, vol. 92, pp. 399–412. Institute of Mathematics of the Polish Academy of Sciences, Warsaw (2011)
1116. Wu, Z., Xie, C.: Decomposition theorems for  $Q_p$  spaces. *Ark. Mat.* **40**(2), 383–401 (2002)
1117. Wunderli, T.: On time flows of minimizers of general convex functionals of linear growth with variable exponent in BV space and stability of pseudosolutions. *J. Math. Anal. Appl.* **364**(2), 591–598 (2010)
1118. Xiong, X., Xu, Q., Yin, Z.: Sobolev, Besov and Triebel–Lizorkin spaces on quantum tori. *Mem. Amer. Soc.* **252**(1203), 1–118 (2018)
1119. Xu, J.S.: Some equivalent quasi-norms in the Herz-type Triebel–Lizorkin spaces. *Beijing Shifan Daxue Xuebao* **37**(6), 715–719 (2001)
1120. Xu, J.S.: Some properties on the Herz-type Besov spaces. *Hunan Daxue Xuebao* **30**(5), 75–78 (2003)
1121. Xu, J.S.: Pointwise multipliers of Herz-type Besov spaces and their applications. *Math. Appl. (Wuhan)* **17**(1), 115–121 (2004)
1122. Xu, J.S.: A discrete characterization of Herz-type Triebel–Lizorkin spaces and its applications. *Acta Math. Sci. Ser. B Engl. Ed.* **24**(3), 412–420 (2004)
1123. Xu, J.S.: Equivalent norms of Herz-type Besov and Triebel–Lizorkin spaces. *J. Funct. Spaces Appl.* **3**(1), 17–31 (2005)

1124. Xu, J.S.: A characterization of Morrey type Besov and Triebel–Lizorkin spaces. *Vietnam J. Math.* **33**(4), 369–379 (2005)
1125. Xu, J.S.: Point-wise multipliers of Herz-type Besov spaces and their applications. *Front. Math. China* **1**(1), 110–119 (2006)
1126. Xu, J.S.: Variable Besov and Triebel–Lizorkin spaces. *Annales Academiae Scientiarum Fennicae Mathematica* **33**, 511–522 (2008)
1127. Xu, J.S.: The relation between variable Bessel potential spaces and Triebel–Lizorkin spaces. *Integral Transforms Spec. Funct.* **19**(7–8), 599–605 (2008)
1128. Xu, J.S.: Atomic decomposition of Herz-type Besov and Triebel–Lizorkin space. *Acta Math. Sci. Ser. A Chin. Ed.* **29**(6), 1500–1507 (2009)
1129. Xu, J.S.: An admissibility for topological degree of Herz-type Besov and Triebel–Lizorkin spaces. *Topol. Methods Nonlinear Anal.* **33**(2), 327–334 (2009)
1130. Xu, J.S.: An atomic decomposition of variable Besov and Triebel–Lizorkin spaces. *Armen. J. Math.* **2**(1), 1–12 (2009)
1131. Xu, J.S.: An admissibility for topological degree of variable Besov and Triebel–Lizorkin spaces. *Georgian Math. J.* **18**(2), 365–375 (2011)
1132. Xu, J.S.: The Beal-Kato-Majda type and the Moser type inequalities for Morrey type Besov spaces with variable exponents. *Math. Appl. (Wuhan)* **27**(2), 346–354 (2014)
1133. Xu, J.S.: Decompositions of non-homogeneous Herz-type Besov and Triebel–Lizorkin spaces. *Sci. China Math.* **57**(2), 315–331 (2014)
1134. Xu, J.S., Fu, J.: Well-posedness for the 2D dissipative quasi-geostrophic equations in the Morrey type Besov space. *Math. Appl. (Wuhan)* **25**(3), 624–630 (2012)
1135. Xu, J.S., Yang, D.: Vector-valued Herz spaces and Herz-type Hardy spaces. *Southeast Asian Bull. Math.* **26**(6), 1053–1073 (2003)
1136. Xu, J.S., Yang, D.: Applications of Herz-type Triebel–Lizorkin spaces. *Acta Math. Sci. Ser. B* **23**, 328–338 (2003)
1137. Xu, J.S., Yang, D.: Herz-type Triebel–Lizorkin spaces, I. *Acta Math. Scinica* **21**, 643–654 (2005)
1138. Yabuta, K.: A remark on the  $(H^1, L^1)$  boundedness. *Bull. Fac. Sci. Ibaraki Univ. Ser. A* **25**, 19–21 (1993)
1139. Yagi, A.: Coïncidence entre des espaces d’interpolation et des domaines de puissances fractionnaires d’opérateurs. *C. R. Acad. Sci. Paris (Sér. I)* **299**, 173–176 (1984)
1140. Yan, L.: Classes of Hardy spaces associated with operators, duality theorem and applications. *Trans. Am. Math. Soc.* **360**, 4383–4408 (2008)
1141. Yan, X., Yang, D., Yuan, W., Zhuo, C.: Variable weak Hardy spaces and their applications. *J. Funct. Anal.* **271**(10), 2822–2887 (2016)
1142. Yang, D.:  $T1$  theorems on Besov and Triebel–Lizorkin spaces on spaces of homogeneous type and their applications. *Z. Anal. Anwend.* **22**(1), 53–72 (2003)
1143. Yang, D.: New characterizations of Hajlasz-Sobolev spaces on metric spaces. *Sci. China Ser. A* **46**, 675–689 (2003)
1144. Yang, D.: Besov spaces and applications on homogeneous type spaces and fractals. *Studia Math.* **156**(1), 15–30 (2003)
1145. Yang, D.: Real interpolations for Besov and Triebel-Lizorkin spaces on spaces of homogeneous type. *Math. Nachr.* **273**, 96–113 (2004)
1146. Yang, D., Liang, Y.: Products of functions in  $BMO(X)$  and  $H_{at}^1(\mathcal{X})$  via wavelets over spaces of homogeneous type. *J. Fourier Anal. Appl.* **23**(4), 919–990 (2016)
1147. Yang, D., Yang, D.: Maximal function characterizations of Musielak–Orlicz–Hardy spaces associated with magnetic Schrödinger operators. *Front. Math. China* **10**(5), 1203–1232 (2015)
1148. Yang, D., Yang, S.: Second-order Riesz transforms and maximal inequalities associated with magnetic Schrödinger operators. *Canad. Math. Bull.* **58**(2), 432–448 (2015)
1149. Yang, D., Yang, S.: Maximal function characterizations of Musielak–Orlicz–Hardy spaces associated to non-negative self-adjoint operators satisfying Gaussian estimates. *Commun. Pure Appl. Anal.* **15**(6), 2135–2160 (2016)

1150. Yang, D., Yang, S.: Regularity for inhomogeneous Dirichlet problems of some Schrödinger equations on domains. *J. Geom. Anal.* **26**(3), 2097–2129 (2016)
1151. Yang, D., Yuan, W.: A note on dyadic Hausdorff capacities. *Bull. Sci. Math.* **132**(6), 500–509 (2008)
1152. Yang, D., Yuan, W.: A new class of function spaces connecting Triebel–Lizorkin spaces and  $Q$  spaces. *J. Funct. Anal.* **255**, 2760–2809 (2008)
1153. Yang, D., Yuan, W.: New Besov-type spaces and Triebel–Lizorkin-type spaces including  $Q$  spaces. *Math. Z.* **265**, 451–480 (2010)
1154. Yang, D., Yuan, W.: Characterizations of Besov-type and Triebel–Lizorkin-type spaces via maximal functions and local means. *Nonlinear Anal.* **73**, 3805–3820 (2010)
1155. Yang, D., Yuan, W.: Dual properties of Triebel–Lizorkin-type spaces and their applications. *Z. Anal. Anwend.* **30**, 29–58 (2011)
1156. Yang, D., Yuan, W.: Relations among Besov-type spaces, Triebel–Lizorkin-type spaces and generalized Carleson measure spaces. *Appl. Anal.* **92**(3), 549–561 (2013)
1157. Yang, D., Yuan, W.: Function spaces of Besov-type and Triebel–Lizorkin-type—a survey. *Appl. Math. J. Chinese Univ. Ser. B* **28**(4), 405–426 (2013)
1158. Yang, D., Yuan, W., Zhou, Y.: A new characterization of Triebel–Lizorkin spaces on  $\mathbb{R}^n$ . *Publ. Mat.* **57**(1), 57–82 (2013)
1159. Yang, D., Yuan, W., Zhuo, C.: Fourier multipliers on Triebel–Lizorkin-type spaces. *J. Funct. Spaces Appl.*, Art. ID 431016, 37pp (2012)
1160. Yang, D., Yuan, W., Zhuo, C.: Complex interpolation on Besov-type and Triebel–Lizorkin-type spaces. *Anal. Appl. (Singap.)* **11**(5), 1350021, 1–45 (2013)
1161. Yang, D., Yuan, W., Zhuo, C.: Musielak–Orlicz Besov-type and Triebel–Lizorkin-type spaces. *Rev. Mat. Complut.* **27**(1), 93–157 (2014)
1162. Yang, D., Zhang, J.: Riesz transform characterizations of Hardy spaces associated to degenerate elliptic operators. *Integral Equ. Oper. Theory* **84**(2), 183–216 (2016)
1163. Yang, D., Zhang, J.: Weighted  $L^p$  estimates of Kato square roots associated to degenerate elliptic operators. *Publ. Mat.* **61**(2), 395–444 (2017)
1164. Yang, D., Zhou, Y.: A boundedness criterion via atoms for linear operators in Hardy spaces. *Constr. Approx.* **29**, 207–218 (2009)
1165. Yang, D., Zhuo, Y.: New properties of Besov and Triebel–Lizorkin spaces on RD-spaces. *Manuscripta Math.* **134**(1–2), 59–90 (2011)
1166. Yang, D., Zhuo, C.: Molecular characterizations and dualities of variable exponent Hardy spaces associated with operators. *Ann. Acad. Sci. Fenn. Math.* **41**(1), 357–398 (2016)
1167. Yang, D., Zhuo, C., Nakai, E.: Characterization of variable exponent Hardy spaces via Riesz transforms. *Rev. Mat. Complut.* **29**(2), 245–270 (2016)
1168. Yang, D., Zhuo, C., Yuan, W.: Besov-type spaces with variable smoothness and integrability. *J. Funct. Anal.* **269**(6), 1840–1898 (2015)
1169. Yang, D., Zhuo, C., Yuan, W.: Besov-type spaces with variable exponents. *Banach J. Math. Anal.* **9**(4), 146–202 (2015)
1170. Yang, M.: On analyticity rate estimates to the magneto-hydrodynamic equations in Besov–Morrey spaces. *Bound. Value Probl.* 2015:155, 1–19 (2015)
1171. Yoneda, T.: Ill-posedness of the 3D–Navier–Stokes equations in a generalized Besov space near  $BMO^{-1}$ . *J. Funct. Anal.* **258**(10), 3376–3387 (2010)
1172. Young, L.C.: An inequality of Hölder type, connected with Stieltjes integration. *Acta Math.* **67**(1), 251–282 (1936)
1173. Yuan, W., Haroske, D.D., Skrzypczak, L., Yang, D.: Embedding properties of weighted Besov-type spaces. *Anal. Appl. (Singap.)* **13**(5), 507–553 (2015)
1174. Yuan, W., Lu, Y.F., Yang, D.: Several equivalent characterizations of fractional Hajlasz–Morrey–Sobolev spaces. *Appl. Math. J. Chinese Univ. Ser. B* **31**(3), 343–354 (2016)
1175. Yuan, W., Sawano, Y., Yang, D.: Decompositions of Hausdorff–Besov and Triebel–Lizorkin–Hausdorff spaces and their applications. *J. Math. Anal. Appl.* **369**(2), 736–757 (2010)

1176. Yuan, W., Sickel, W., Yang, D.: On the coincidence of certain approaches to smoothness spaces related to Morrey spaces. *Math. Nachr.* **286**(14–15), 1571–1584 (2013)
1177. Yuan, W., Sickel, W., Yang, D.: Compact embeddings of radial and subradial subspaces of some Besov-type spaces related to Morrey spaces. *J. Approx. Theory* **174**, 121–139 (2013)
1178. Yuan, W., Sickel, W., Yang, D.: Interpolation of Morrey-Campanato and related smoothness spaces. *Sci. China Math.* **58**(9), 1835–1908 (2015)
1179. Yuan, W., Haroske, D.D., Skrzypczak, L., Yang, D.: Embedding properties of Besov-type spaces. *Appl. Anal.* **94**(2), 319–341 (2015)
1180. Zhang, J., Chang, D.C., Yang, D.: Characterizations of Sobolev spaces associated to operators satisfying off-diagonal estimates on balls. *Math. Methods Appl. Sci.* **40**, 2907–2929 (2017)
1181. Zhang, J., Cao, J., Jiang, R., Yang, D.: Non-tangential maximal function characterizations of Hardy spaces associated with degenerate elliptic operators. *Canad. J. Math.* **67**(5), 1161–1200 (2015)
1182. Zhikov, V.V.: Averaging of functionals of the calculus of variations and elasticity theory. *Izvestiya Akademii Nauk SSSR Seriya Matematicheskaya* **50**(4), 675–710 (1986)
1183. Zhang, J., Zhuo, C., Yang, D., He, Z.: Littlewood–Paley characterizations of Triebel–Lizorkin–Morrey spaces via ball averages. *Nonlinear Anal.* **150**, 76–103 (2017)
1184. Zhuo, C., Sawano, Y., Yang, D.: Hardy spaces with variable exponents on RD-spaces and applications. *Diss. Math. (Rozprawy Mat.)* **520**, 1–74 (2016)
1185. Zhuo, C., Sickel, W., Yang, D., Yuan, W.: Characterizations of Besov-type and Triebel–Lizorkin-type spaces via averages on balls. *Canad. Math. Bull.* **60**, 655–672 (2017)
1186. Zhuo, C., Yang, D., Liang, Y.: Intrinsic square function characterizations of Hardy spaces with variable exponents. *Bull. Malays. Math. Sci. Soc.* **39**(4), 1541–1577 (2016)
1187. Zhuo, C., Yang, D.: Maximal function characterizations of variable Hardy spaces associated with non-negative self-adjoint operators satisfying Gaussian estimates. *Nonlinear Anal.* **141**, 16–42 (2016)
1188. Zhuo, C., Yang, D., Yuan, W.: Hausdorff Besov-type and Triebel–Lizorkin-type spaces and their applications. *J. Math. Anal. Appl.* **412**(2), 998–1018 (2014)
1189. Zhuo, C., Yang, D., Yuan, W.: Interpolation between  $H^{p(\cdot)}(\mathbb{R}^n)$  and  $L^\infty(\mathbb{R}^n)$ : real method. *J. Geom. Anal.* online
1190. Zygmund, A.: Smooth functions. *Duke Math. J.* **12**, 47–76 (1945)
1191. Zygmund, A.: On a theorem of Marcinkiewicz concerning interpolation of operators. *J. Math. Pures Appl. (9)* **35**, 223–248 (1956)



# Index

## Symbols

- $(-\Delta)^\alpha$ , 280
- $(\beta\text{qu})_{vm}$ , 454
- $(\beta\text{qu})_{vm}^{(L)}$ , 462
- $A_r^s K_{pq}^\alpha(\mathbb{R}^n)$ , 784
- $A_{X,q}^s(\mathbb{R}^n)$ , 775
- $A_{pq;\text{self}}^s(\mathbb{R}^n)$ , 529
- $A_{pq\Omega}^s(\mathbb{R}^n)$ , 697
- $A_{pq}^s(w)$ , 806
- $A_{pq}^s(\mathbb{R}^n)$ , 241
- $A_{pq}^w(\mathbb{R}^n)$ , 810
- $A_{pq}^{s,\alpha}(\mathbb{R}^n)$ , 810
- $A_{pq}^{s-\frac{n-D}{p}}(\Gamma, \mu)$ , 822
- $A_{pq}^{s_1,s_2}(\mathbb{R}^m \times \mathbb{R}^n)$ , 813
- $A_{pq}^{s_1,s_2}(\mathbb{R}^{2n})$ , 813
- $A_1$ , 715
- $A_p$ , 715
- $A_p^{\text{loc}}$ , 807
- $A_\infty$ , 715
- $A_{pq}^s(\Omega)$ , 577
- $A_{pq}^s(\mathbb{R}_+^n)$ , 566
- $A_{pq}^{s,\tau}(\mathbb{R}^n)$ , 792
- $A_{p(\star)q(\star)}^{s(\star)}$ , 811
- $B(X)$ , 38
- $B(X, Y)$ , 38
- $B(r)$ , xiii
- $B(x, r)$ , xiii
- $B\dot{H}_{pq}^{s,\tau}(\mathbb{R}^n)$ , 802
- $B_{\infty}^{l,1} S_{pq}^m(\mathbb{R}^n)$ , 609
- $B_r^s K_{pq}^\alpha(\mathbb{R}^n)$ , 784
- $B_{X,q}^s(\mathbb{R}^n)$ , 775
- $B_{pq}^s(w)$ , 806
- $B_{pq}^s(\mathbb{R}^n)$ , 210, 241
- $B_{pq}^w(\mathbb{R}^n)$ , 810
- $B_{pq}^{s,\alpha}(\mathbb{R}^n)$ , 810
- $B_{pq}^{s_1,s_2}(\mathbb{R}^m \times \mathbb{R}^n)$ , 813
- $B_{pq}^{s_1,s_2}(\mathbb{R}^{2n})$ , 813
- $B_{pq}^s(\Omega)$ , 577
- $B_{pq}^s(\mathbb{R}_+^n)$ , 566
- $B_{pq}^{s,\tau}(\mathbb{R}^n)$ , 792
- $B_{p(\star)q(\star)}^{s(\star)}$ , 811
- $B_{pq}^w(\mathbb{R}^n)$ , 810
- $B_{pq}^{s,\alpha}(\mathbb{R}^n)$ , 810
- $B_{pq}^{s_1,s_2}(\mathbb{R}^m \times \mathbb{R}^n)$ , 813
- $B_{pq}^{s_1,s_2}(\mathbb{R}^{2n})$ , 813
- $B_{pq}^s(\Omega)$ , 577
- $B_{pq}^s(\mathbb{R}_+^n)$ , 566
- $B_{pq}^{s,\tau}(\mathbb{R}^n)$ , 792
- $B_{p(\star)q(\star)}^{s(\star)}$ , 811
- $C(\mathbb{T}^n)$ , 76
- $C^k(\mathbb{T}^n)$ , 76
- $C_c^\infty(\Omega)$ , 16, 77
- $C_c^\infty(\Omega; K)$ , 77
- $C_c^\infty(\mathbb{R}^n)$ , 9
- $C_k^v$ , 175
- $C_c(\Omega)$ , 16
- $E(x, t)$ , 643
- $E_j$ , 147
- $F\dot{H}_{pq}^{s,\tau}(\mathbb{R}^n)$ , 803
- $F\dot{T}_{pq}^{s,\tau}(\mathbb{R}^n)$ , 788
- $F\dot{W}_{pq}^{s,\tau}(\mathbb{R}^n)$ , 785
- $F_r^s K_{pq}^\alpha(\mathbb{R}^n)$ , 784
- $F_{X,q}^s(\mathbb{R}^n)$ , 775
- $F_{\infty q}^s(\mathbb{R}^n)$ , 411
- $F_{pq}^s(w)$ , 806
- $F_{pq}^s(\mathbb{R}^n)$ , 241
- $F_{pq}^{wl}(\mathbb{R}^n)$ , 810
- $F_{pq}^{s,\alpha}(\mathbb{R}^n)$ , 810
- $F_{pq}^{s_1,s_2}(\mathbb{R}^m \times \mathbb{R}^n)$ , 813
- $F_{pq}^{s_1,s_2}(\mathbb{R}^{2n})$ , 813
- $F_{pq}^s(\Omega)$ , 577
- $F_{pq}^s(\mathbb{R}_+^n)$ , 566
- $F_{pq}^{s,\tau}(\mathbb{R}^n)$ , 792
- $F_{p(\star)q(\star)}^{s(\star)}$ , 811

- $F_{pp}^{s+2-1/p}(\partial\Omega)$ , 677
- $H^1(X(\mathbb{R}^n))$ , 770
- $H^1(Q)$ , 55
- $H^1(\mathbb{R}^n)$ , 55
- $H^p(\mathbb{R}^n)$ , 337
- $H^s(\mathbb{R}^n)$ , 132
- $H_p^s(\mathbb{R}^n)$ , 132
- $H^\Phi(\mathbb{R}^n)$ , 770, 772
- $H^{\log}(\mathbb{R}^n)$ , 773
- $H^{p(*)}(\mathbb{R}^n)$ , 770
- $H^{p,\infty}(w)$ , 771
- $H^{p,\infty}(\mathbb{R}^n)$ , 771
- $H_{\log,0}(\mathbb{R}^n)$ , 734
- $H_{\log,\infty}(\mathbb{R}^n)$ , 734
- $H_{\log}(\mathbb{R}^n)$ , 734
- $I_\alpha$ , 107
- $K_{pq}^{\alpha,\lambda}(\mathbb{R}^n)$ , 712
- $K_{pq}^\alpha(\ell^u, \mathbb{R}^n)$ , 768
- $K_{pq}^\alpha(\mathbb{R}^n)$ , 766
- $L^0(\mathbb{R}^n)$ , 710
- $L^1_{\text{loc}}(\mathbb{R}^n)$ , 50
- $L^a[\log L]^b(\mathbb{R}^n)$ , 763
- $L^p(\ell^q, \mathbb{R}^n)$ , 120
- $L^p(w, \ell^q)$ , 725
- $L^p(\mathbb{T}^n)$ , 76
- $L^p_\Omega$ , 124
- $L^p_x L^u_{x_n}(\mathbb{R}^n)$ , 525
- $L^\Phi(X)$ , 753, 763
- $L^\Phi(\ell^q, \mathbb{R}^n)$ , 761
- $L^\infty(\mathbb{R}^n)$ , 4
- $L^\infty_c(\mathbb{R}^n)$ , 10
- $L^{p(*)}(\ell^q(*))$ , 738
- $L^{p(*)}(\ell^q(*), \mathbb{R}^n)$ , 738
- $L^{p(*)}(\ell^q, \mathbb{R}^n)$ , 738
- $L^{p,\infty}(\mathbb{R}^n)$ , 110
- $L^p(\ell^r, \mathbb{R}^n)$ , 727
- $M(\mathbb{R}^n)$ , 827
- $M^{(n)}$ , 125
- $M^{\text{loc}}$ , 807
- $M_0$ , 155
- $M_B$ , 333
- $M_{\text{dyadic}} f$ , 147
- $M_{\mathcal{Q}(Q)}$ , 155
- $N$ , 143
- $N_\beta$ , 143, 144
- $Q(x, r)$ , xiii
- $Q_p^{\alpha,q,*}$ , 797
- $S$ , 484
- $S_{\rho\delta}^m$ , 590
- $S^{2n-1}$ , 853
- $S^{n-1}$ , 88
- $S_n$ , 172
- $S_\eta$ , 623
- $T1$ , 683
- $T^*(T \in \mathcal{S}'(\mathbb{R}^n \times \mathbb{R}^n))$ , 95
- $\Delta(1)$ , 49
- $\Delta_2$ , 759
- $\Gamma(x)$ , 142
- $\Gamma_\beta(x)$ , 381
- $\Phi_Q$ , 844
- $\approx$ , 214
- $\chi$ , xiii
- $\chi_{vm}^{(p)}$ , 431
- $\frac{\sqrt{L}}{\text{id}_H + L}$ , 635
- $\dim_{\mathcal{H}}(A)$ , 823
- $\dot{A}_{pq}^s(\mathbb{R}^n, A)$ , 815
- $\dot{A}_{pq}^{s,*}(\mathbb{R}^n)$ , 286
- $\dot{A}_{pq}^{s,\tau}(\mathbb{R}^n)$ , 793
- $\dot{B}_{pq}^s(\mathbb{R}^n, A)$ , 815
- $\dot{B}_{pq}^{s,\tau}(\mathbb{R}^n)$ , 793
- $\dot{F}_{\infty q}^s(\mathbb{R}^n)$ , 411
- $\dot{F}_{pq}^s(\mathbb{R}^n, A)$ , 815
- $\dot{F}_{pq}^{s,\tau}(\mathbb{R}^n)$ , 793
- $\dot{K}_{pq}^\alpha(\ell^u, \mathbb{R}^n)$ , 768
- $\dot{K}_{pq}^\alpha(\mathbb{R}^n)$ , 766
- $\dot{L}^{1,p}(\mathbb{R}^n)$ , 287
- $\dot{W}^{1,\infty}(\mathbb{R}^n)$ -condition, 151
- $\dot{W}^{1,p}(\mathbb{R}^n)$ -condition, 151
- $\ell^q(L^p(w))$ , 725
- $\ell^q(L^p, \mathbb{R}^n)$ , 120
- $\ell^q(L^\Phi, \mathbb{R}^n)$ , 776
- $\ell^q(L^p, \mathbb{R}^n)$ , 776
- $\ell^q_s$ , 478
- $\ell^r(\mathcal{M}_q^p, \mathbb{R}^n)$ , 776
- $\ell^u(K_{pq}^\alpha, \mathbb{R}^n)$ , 776
- $\ell^u(\dot{K}_{pq}^\alpha, \mathbb{R}^n)$ , 776
- $\ell^q(*) (L^{p(*)})$ , 738
- $\ell^q(*) (L^{p(*)}, \mathbb{R}^n)$ , 738
- $\ell^q(L^{p(*)}, \mathbb{R}^n)$ , 738
- $\eta_{j,m}$ , 114
- $\hat{O}$ , 17
- $\langle a \rangle$ , 43
- $\text{div}$ , 55
- $\nabla$ , 55
- $\nabla_2$ , 759
- $\omega_s$ , 823
- $\bar{S}$ , 484
- $\overset{\circ}{X}(\mathbb{R}^n)$ , 504
- $\overset{\diamond}{X}(\mathbb{R}^n)$ , 504
- $\partial^\alpha$ , 16
- $\partial^\beta f$ , 41

$\perp$ , 83  
 $\psi^\beta$ , 454  
 $\rho(L)$ , 38  
 $\sigma(L)$ , 38  
 $\sqrt{L}$ , 635  
 $\tilde{\mathcal{C}}_0(\mathbb{R}^n)$ , 63  
 $\varphi^*$ , 754  
 $\varphi_j$ , 207  
 $\varphi_j$  (for anisotropic function spaces), 815  
 $A_{pq}^s(\Omega)$ , 697  
 $\mathcal{S}(\mathbb{R}^n)_L$ , 90  
 $a(X, D)$ , 590  
 $a(X, D)^*$ , 592  
 $a(X, D)f$  for  $f \in \mathcal{S}'(\mathbb{R}^n)$ , 593  
 $a_k$ , 587  
 $a_k(X \hookrightarrow Y)$ , 587  
 $e_k$ , 587  
 $e_k(X \hookrightarrow Y)$ , 587  
 $f_{Q,w}^\varepsilon$ , 844  
 $hK_\alpha^p(\mathbb{R}^n)$ , 772  
 $h^p(\mathbb{R}^n)$ , 388  
 $i\mathbb{R}$ , 630  
 $m_Q$ , 399  
 $p_+$ , 728  
 $p_-$ , 728  
 $p_N$ , 42  
 $p_{\alpha,\beta}$ , 43  
 $p_\alpha$  (for  $\mathcal{D}(\mathbb{T}^n)$ ), 76  
 $r_j$ , 322  
 $x^\beta$ , 41  
 $\mathbb{T}^n$ , 75  
 $\mathcal{A}_{pqr}^{rs}(\mathbb{R}^n)$ , 783  
 $\mathcal{B}^m$ , 217  
 $\mathcal{C}^s(\mathbb{R}^n)$ , 522  
 $\mathcal{D}(Q)$ , 13  
 $\mathcal{D}(\mathbb{T}^n)$ , 76  
 $\mathcal{D}, \mathcal{D}$ , 13  
 $\mathcal{D}'(\Omega)$ , 81  
 $\mathcal{D}'(\mathbb{T}^n)$ , 76  
 $\mathcal{E}_{pqr}^{rs}(\mathbb{R}^n)$ , 783  
 $\mathcal{F}_N$ , 331  
 $\mathcal{H}^s(A)$ , 823  
 $\mathcal{K}(\Omega)$ , 77  
 $\mathcal{M}_q^p$ , 745  
 $\mathcal{M}_q^p(\ell^r, \mathbb{R}^n)$ , 749  
 $\mathcal{M}_{A,j}f$ , 290  
 $\mathcal{M}f$ , 336  
 $\mathcal{N}_{pqr}^s(\mathbb{R}^n)$ , 783  
 $\mathcal{O}_M(\mathbb{R}^n)$ , 52, 509  
 $\mathcal{P}(\mathbb{R}^n)$ , 50, 173  
 $\mathcal{P}_d(\mathbb{R}^n)$ , 50  
 $\mathcal{P}_{-1}(\mathbb{R}^n)$ , 101  
 $\mathcal{S}'(\Omega)$ , 587

$\mathcal{S}'_\Omega(\mathbb{R}^n)$ , 124  
 $\mathcal{S}'_L(\mathbb{R}^n)$ , 89  
 $\mathcal{S}'_\Omega(\mathbb{R}^n)$ , 124  
 $\mathcal{S}'_\infty(\mathbb{R}^n)$ , 269  
 $\mathcal{S}'_\infty(\mathbb{R}^n)$ , 269  
 $\mathcal{W}_{\alpha_1, \alpha_2}^{\alpha_3}$ , 809  
 $\text{BMO}(\mathbb{R}^n)$  (space), 399  
 $\text{BMO}^+(\mathbb{R}^n)$ , 399  
 $\text{Dom}(A)$ , 645  
 $\text{Dom}(L)$ , 38  
 $\text{Hom}_{\mathbb{C}}(V, W)$ , 49  
 $\text{Lip}(\theta)$ , 235  
 $\text{Lip}(\mathbb{R})$ , 37  
 $\text{Lip}(\mathbb{R}^n)$ , 225, 690  
 $O(n)$ , 826  
 $\text{bmo}(\mathbb{R}^n)$ , 407  
 $\text{diam}(K)$ , 131  
 $e^{it\Delta}$ , 652  
 $\text{osc}_1^M$ , 302  
 $\mathbf{a}_{pq}(\mathbb{R}^n)$ , 431  
 $\mathbf{b}_{pq}(\mathbb{R}^n)$ , 431  
 $\mathbf{f}_{pq}(\mathbb{R}^n)$ , 431  
 2-microlocal Besov space, 810  
 2-microlocal Triebel–Lizorkin space, 810  
 5 $r$ -covering lemma, 14

## A

abbreviation of the elements in  
 $\mathcal{S}'(\mathbb{R}^n)/\mathcal{D}(\mathbb{R}^n)$ , 275  
 absolutely continuous norm, 713  
 accretive, 628  
 additive inequality, 102  
 adjoint of pseudo-differential operators, 598  
 $A_\infty$ -constant, 715  
 $A_\infty$ -weight, 715  
 approximation number with degree  $k$ , 587  
 associated norm, 713  
 $A_1$ -constant, 715  
 $A_1$ -weight, 715  
 $A_p$ -constant, 715  
 $A_p$ -weight, 715  
 atom, 432, 482  
 atoms for Besov spaces and Triebel–Lizorkin  
 spaces, 432  
 atoms in Hardy spaces, 349

## B

ball Banach function space, 711  
 ball means of differences, 301  
 ball quasi-Banach function space, 711  
 Banach–Alaoglu theorem, 37  
 Banach algebra, 263

Banach function space, 711  
 band-limited distribution, 71  
 Bernstein's lemma, 128  
 Besov–Hausdorff space, 802  
 Besov-type space, 793  
 Besov norm, 207  
 Besov norm (on the whole space), 239  
 Besov norm of the ball means of differences, 301  
 Besov space, 210  
 bounded set in  $\mathcal{D}(\Omega)$ , 80

**C**

Calderón's first complex interpolation functor, 484  
 Calderón's first complex interpolation space, 484  
 Calderon's second complex interpolation space, 497  
 Calderón–Zygmund decomposition, 149  
 Calderón–Zygmund decomposition for  $\mathcal{S}'(\mathbb{R}^n)$ , 363  
 Calderón's reproducing formula, 74  
 canonical ball cover with respect to Hausdorff capacity, 20  
 canonical representation, 752  
 Cantor dust, 830  
 Cantor function, 225  
 Cantor set, 829  
 Carleson box, 17  
 Carleson measure, 142  
 Carleson tent, 17  
 Cauchy integral, 694  
 Cauchy integral, 691, 694  
 Choquet integral, 30  
 $C^\infty(\mathbb{R}^n)$ -function that has at most polynomial growth at infinity, 52  
 $C^\infty$ -domain, 576  
 classical Besov norm, 320  
 closed strip domain, 484  
 coefficient mapping, 439  
 compatible couple, 473  
 complex interpolation functor, 484, 490, 497  
 complex interpolation space, 484, 497  
 composition of pseudo-differential operators, 602  
 conjugate (variable) exponent, 731  
 conjugate function, 754  
 containing space, 473  
 continuous function over  $\overline{S}$ , 484  
 continuous semi-group, 644

convolution, 6, 9  
 convolution of  $f \in \mathcal{S}(\mathbb{R}^n)$  and  $g \in \mathcal{S}'(\mathbb{R}^n)$ , 62  
 CZ(Calderón–Zygmund)-kernel, 680

**D**

$\Delta_2$ -condition, 759  
 $\delta$ -body, 824  
 densely defined closed operator, 38  
 density argument, 36  
 difference operator, 96  
 differential index, 219, 248  
 differentiation in  $\mathcal{S}'(\mathbb{R}^n)$ , 54  
 dilation matrix, 814  
 distributional Fourier transform, 68  
 diversity of function spaces, 254  
 Doetsch's three-line lemma, 194  
 domain, 38  
 domains satisfying the horn condition, 582  
 doubling condition, 759  
 doubling measure, 830  
 $D$ -set, 821  
 $d\sigma(\omega)$ , 647  
 dual inequality of Stein-type, 111, 112  
 dyadic average operator, 147  
 dyadic child, 13  
 dyadic cube, 13  
 dyadic cubes of  $j$ -th generation, 13  
 dyadic maximal operator, 147  
 dyadic parent, 13

**E**

elementary symbol, 609  
 entropy number with degree  $k$ , 587  
 $(\varepsilon, \delta)$  domains, 582  
 $\eta$ -triangle inequality, 36  
 $\eta$ -function, 114  
 expansive matrix, 814  
 exponential of sectorial operators, 625, 633

**F**

Fatou lemma, 2  
 Fatou property, 250  
 Fefferman–Stein vector-valued maximal inequality, 120  
 Fenchel–Legendre transform, 756  
 $5r$ -covering lemma, 14  
 Fourier multiplier, 131  
 Fourier space, 66  
 Fourier transform, 65

Fourier transform for Schwartz distributions, 68  
 fractional integral operator, 107  
 Frazier–Jawerth  $\varphi$ -transform, 456  
 frequency support, 71, 124  
 Frostman measure, 823  
 Fubini’s property, 537  
 Fubini’s theorem, 3

**G**

Gaffney-type estimate, 660  
 Gaussian, 42  
 generalized Legendre polynomial, 175  
 generalized Weyl’s lemma, 91  
 generator, 645  
 gradient condition, 156  
 grid, 108  
 $g_\lambda^*$ -function, 381

**H**

Hölder–Zygmund space, 224, 227  
 Hörmander–Michlin multiplier theorem, 161  
 Hadamard gap, 236  
 Hardy–Littlewood maximal inequality, 109  
 Hardy–Littlewood maximal operator, 107  
 Hardy inequality, 469  
 Hardy space, 337  
 Hardy spaces based on  $X(\mathbb{R}^n)$ , 770  
 Hata’s tree, 830  
 Hausdorff–Pompeiu distance, 824  
 Hausdorff capacity, 20  
 Hausdorff distance, 824  
 heat kernel, 643  
 heat semi-group, 643  
 heat semi-group in  $\mathcal{S}'(\mathbb{R}^n)$ , 643  
 Herz–Morrey space, 712  
 high frequency part, 281  
 high pass filter, 281  
 Hilbert transform, 157  
 holomorphic function over  $S$ , 484  
 homogeneous Besov-type space, 793  
 homogeneous Besov space, 279  
 homogeneous Herz space, 766  
 homogeneous Triebel–Lizorkin-type norm, 793  
 homogeneous Triebel–Lizorkin-type space, 793  
 homogeneous Triebel–Lizorkin space, 279  
 homogenous Besov-type norm, 793  
 Hörmander class, 590  
 Hörmander condition, 680

**I**

inner regularity, 9  
 integral kernel, 157  
 intersection subspace, 474  
 inverse Fourier transform, 65

**J**

John–Nirenberg inequality, 400, 402  
 John domain, 582

**K**

Kato conjecture, 833  
 Kato theorem, 833  
 kernel, 38  
 key theorems in function spaces, 538  
 $K$ -functional, 476  
 Khintchine’s inequality, 323  
 Koch curve, 829  
 Kolmogorov inequality, 111  
 Köthe dual, 713

**L**

$L^1(\mathbb{R}^n)$ -condition, 148  
 lacunary, 310  
 Laplacian, 678  
 Lebesgue’s convergence theorem, 2  
 Lebesgue differentiation theorem, 114  
 Legendre conjugate function, 754  
 lift operator, 214, 246  
 linear spline, 225  
 $L^\infty(\mathbb{R}^n)$ -condition, 149  
 Littlewood–Paley  $g$ -function, 381  
 Littlewood–Paley operators, 207  
 Lizorkin distribution, 269  
 Lizorkin functions, 83  
 local  $\text{bmo}(\mathbb{R}^n)$  space, 407  
 local Hardy–Littlewood maximal operator, 807  
 local Hardy–Herz space, 772  
 local Hardy space, 388  
 localization of function spaces, 519  
 local means, 289  
 local reproducing formula, 84  
 logarithmic convexity formula, 478, 485  
 lower half space, xiv  
 low frequency part, 281  
 low pass filter, 281  
 $L^p(\mathbb{R}^n)$ -inequality of the Hardy–Littlewood maximal operator, 113  
 $L^p$ -space with weight, 714  
 Luzin function, 381

**M**

Marcinkiewicz interpolation theorem, 160  
 maximal inequality for local means, 291, 294  
 measurable rectangular, 3  
 metrizable topological space, 45  
 minimality of  $\dot{B}_{11}^0(\mathbb{R}^n)$ , 446  
 Minkovski sum, xvii  
 mixed Lebesgue space, 726  
 modified dyadic Hausdorff capacity, 22  
 modulation space, 263  
 molecule, 432  
 molecules for Besov spaces and Triebel–Lizorkin spaces, 433  
 moment condition, 83  
 monotone convergence theorem, 2  
 Morrey norm, 745  
 Morrey space, 745  
 multiplicative inequality, 103

**N**

$\nabla_2$ -condition, 759  
 Nakano–Luxemburg norm, 728  
 Neumann expansion, 665  
 nice Young function, 754  
 node, 225  
 nonhomogeneous Besov space (over  $\mathbb{T}^n$ ), 818  
 nonhomogeneous Herz space, 766  
 nonhomogeneous Triebel–Lizorkin-type norm, 792  
 nonhomogeneous Triebel–Lizorkin space (over  $\mathbb{T}^n$ ), 818  
 nonhomogenous Besov-type norm, 792  
 nontangential maximal function, 143  
 nontrivial, 218

**O**

off-diagonal estimate, 660, 667  
 of trace zero, 187  
 openness property, 720  
 open set condition, 827  
 open strip domain, 484  
 optimal polynomials, 101  
 order of difference operator, 96  
 oscillation, 101, 302  
 overlap, 13

**P**

$(p, q)$ -block centered at  $Q$ , 389  
 packing, 15  
 paraproduct operator, 688  
 Peetre’s inequality, 43  
 Peetre’s maximal operator, 125, 128, 291

$\varphi$ -transform, 456  
 physical space, 66  
 Plancherel’s theorem (for  $\mathcal{S}(\mathbb{R}^n)$ ), 69  
 Plancherel’s theorem (for  $L^2(\mathbb{R}^n)$ ), 69  
 Plancherel–Polya–Nikolski’i inequality, 125  
 Poincaré–Wirtinger inequality, 105  
 Poincaré inequality, 105  
 pointwise product of  $C^\infty$ -function that has at most polynomial growth at infinity and distribution, 52  
 potential space, 132  
 powered Hardy–Littlewood maximal operator, xvi  
 pseudo-differential operators of Kohn–Nirenberg type, 590  
 $\psi$  for the quarkonial decomposition, 454

**Q**

$Q$ -space, 796  
 quark, 454  
 quark for general case, 462  
 quarkonial decomposition for the regular case, 455  
 quasi-Banach function space, 711  
 quasi-norm associated with an expansive matrix, 814  
 quasi-triangle inequality, 36  
 quotient topology, 277

**R**

Rademacher sequence, 322  
 range, 38  
 real interpolation functor, 477  
 realization of  $\dot{A}_{pq}^{s*}(\mathbb{R}^n)$ , 287  
 realization of  $\dot{A}_{pq}^s(\mathbb{R}^n)$ , 284  
 reference point, 17  
 reflection, 583  
 reflection principle, 184  
 regular diffeomorphism, 538  
 regular elements in  $\mathcal{S}'(\mathbb{R}^n)$ , 50  
 regular quark, 454  
 resolvent estimate, 623  
 resolvent set, 38  
 restricted boundedness, 680  
 restriction of  $\mathcal{S}'(\mathbb{R}^n)$  to open sets, 81  
 reverse Hölder inequality, 718  
 Riesz transform, 146, 157

**S**

sampling theorem, 129  
 Schwartz’s kernel theorem, 93

Schwartz distribution (space), 49  
 Schwartz function space  $\mathcal{S}(\mathbb{R}^n)$ , 42  
 second complex interpolation functor, 497  
 second complex interpolation space, 497  
 sectorial operator, 623  
 Segal algebra, 263  
 sequence spaces for quarkonial decomposition, 454  
 Sierpinski gasket, 829  
 Sierpinski triangle, 829  
 singular integral operator, 157  
 size condition, 156, 679  
 Sjöstrand class, 263  
 slowly varying, 698  
 smoothness Herz space, 784  
 smoothness Morrey space, 783  
 Sobolev norm, 151, 205  
 Sobolev embedding of Frank–Jawerth-type, 464  
 Sobolev index, 248  
 space of homogeneous type, 830  
 spaces of Kudrjavcev type, 529  
 spectrum set, 38  
 stationary phase for nondegenerate stationary points, 651  
 step, 96  
 strip domain  $S$ , 484  
 strong maximal operator, 726  
 strong subadditivity, 24  
 sum space, 474  
 support, 16  
 support condition, 149  
 support of distributions, 58  
 symbol class, 590  
 symmetric, 187

**T**

$T1$  theorem, 686, 688  
 tensor-valued function, 186  
 tensor product, 93, 186  
 test functions, 42  
 topological vector space, 268, 473  
 topology of  $\mathcal{S}'(\mathbb{R}^n)$ , 52  
 topology of  $\mathcal{S}'(\mathbb{R}^n)/\mathcal{P}(\mathbb{R}^n)$ , 274  
 trace free, 187

Triebel–Lizorkin–Hausdorff space, 803  
 Triebel–Lizorkin-type space, 793  
 Triebel–Lizorkin norm (on the whole space), 239  
 Triebel–Lizorkin norm of ball means of differences, 301  
 $TT^*$ -method, 653

**U**

Uchiyama class, 230  
 uniformly  $C^m$ -open set, 581  
 uniformly elliptic condition, 655  
 unitary, 69  
 universal estimate, 155  
 upper half space, xiv

**V**

validity of Besov spaces and Triebel–Lizorkin spaces, 239  
 variable exponent, 728  
 variable exponent Besov space, 811  
 variable exponent Lebesgue space, 728  
 variable exponent Triebel–Lizorkin space, 811  
 variable Lebesgue norm, 728  
 vector-valued norm, 120  
 vertical maximal operator, 332, 336

**W**

weak Hardy space, 771  
 weak  $L^p$  space, 110  
 Weierstrass function, 231  
 weighted dyadic maximal operator, 717  
 weighted Lebesgue space, 714  
 weighted weak Hardy space, 771  
 Weyl's lemma, 91  
 Whitney covering, 15  
 Whitney decomposition, 15  
 Whitney region, 141, 543  
 Wirtinger inequality, 105

**Y**

Young function, 752