
References

1. M.A. Akcoglu and U. Krengel, *Ergodic theorems for superadditive processes*, J. Reine Angew. Math., vol. 323, 53–67 (1981)
2. M. Aizenman, J. Brémont and J.L. Lebowitz, *Percolation of the minority spins in high-dimensional Ising models*, J. Stat. Phys., Vol. 49, 859–865 (1987)
3. M. Aizenman, J.T. Chayes, L. Chayes, J. Fröhlich and L. Russo, *On a sharp transition from area law to perimeter law in a system of random surfaces*, Commun. Math. Phys. 92, 19–69 (1983)
4. G. Alberti, G. Bellettini, M. Cassandro and E. Presutti, *Surface tension in Ising systems with Kac potentials*, J. Stat. Phys. 82, 743–796 (1996)
5. K.S. Alexander, *Stability of the Wulff minimum and fluctuations in shape for large finite clusters in two-dimensional percolation*, Probab. Theory Relat. Fields 91, 507–532 (1992)
6. K.S. Alexander, *Cube root boundary fluctuations for droplets in random cluster models*, Comm. Math. Phys. 224, no. 3, 733–781 (2001)
7. K.S. Alexander, M. Biskup and L. Chayes, *Colligative properties of solutions: I. Fixed concentrations*, Jour. Stat. Phys. 119, no. 3–4, 479–507 (2005)
8. K.S. Alexander, M. Biskup and L. Chayes, *Colligative properties of solutions: II. Vanishing concentrations*, Jour. Stat. Phys. 119, no. 3–4, 509–537 (2005)
9. K.S. Alexander, J.T. Chayes and L. Chayes, *The Wulff construction and asymptotics of the finite cluster distribution for two-dimensional Bernoulli percolation*, Comm. Math. Phys. 131, no. 1, 1–50 (1990)
10. K.S. Alexander and H. Uzun, *Lower bounds for boundary roughness for droplets in Bernoulli percolation*, Probab. Theory Relat. Fields 127, no. 1, 62–88 (2003)
11. L. Ambrosio, N. Fusco and D. Pallara, *Functions of bounded variation and free discontinuity problems*, Oxford Mathematical Monographs (2000)
12. L. Ambrosio, M. Novaga and E. Paolini, *Some regularity results for minimal crystals*, ESAIM Control Optim. Calc. Var. 8, 69–103 (2002)
13. P. Assouad and T. Quentin de Gromard, *Sur la dérivation des mesures dans \mathbb{R}^n* , Unpublished note (1998)
14. R.R. Bahadur and S.L. Zabell, *Large deviations of the sample mean in general vector spaces*, Ann. Prob. 7, no. 4, 587–621 (1979)
15. D. Barbato, *Tesi di Laurea*, Università di Pisa (2002)
16. G. Bellettini, M. Cassandro and E. Presutti, *Constrained minima of nonlocal free energy functionals*, J. Stat. Phys. 84, no. 5–6, 1337–1349 (1996)

17. O. Benois, T. Bodineau, P. Buttà and E. Presutti, *On the validity of van der Waals theory of surface tension*, Markov Process. Rel. Fields 3, 175–198 (1997)
18. O. Benois, T. Bodineau and E. Presutti, *Large deviations in the van der Waals limit*, Stochastic Process. Appl. 75, 89–104 (1998)
19. A.S. Besicovitch, *A general form of the covering principle and relative differentiation of additive functions*, Proc. Cambridge Philos. Soc. 41, 103–110 (1945). Part II. Proc. Cambridge Philos. Soc. 42, 1–10 (1946)
20. M. Biskup, L. Chayes and R. Kotecky, *Comment on: “Theory of the evaporation/condensation transition of equilibrium droplets in finite volumes”* (2003)
21. M. Biskup, L. Chayes and R. Kotecky, *Critical region for droplet formation in the two-dimensional Ising model*, Comm. Math. Phys. 242, no. 1–2, 137–183 (2003)
22. M. Biskup, L. Chayes and R. Kotecky, *A proof of the Gibbs–Thomson formula in the droplet formation regime*, J. Stat. Phys. 116, no. 1–4, 175–203 (2004)
23. T. Bodineau, *The Wulff construction in three and more dimensions*, Comm. Math. Phys. 207, no. 1, 197–229 (1999)
24. T. Bodineau, *On the van der Waals theory of surface tension*, Inhomogeneous random systems (Cergy-Pontoise, 2001), Markov Process. Related Fields 8, no. 2, 319–338 (2002)
25. T. Bodineau, *Phase coexistence for the Kac-Ising models*, In and out of equilibrium (Mambucaba, 2000), Progr. Probab. 51, 75–111, Birkhäuser (2002)
26. T. Bodineau, *Slab percolation for the Ising model*, Probab. Theory Relat. Fields 132, no. 1, 83–118 (2005).
27. T. Bodineau, *Translation invariant Gibbs states for the Ising model*, Probab. Theory Relat. Fields (2005).
28. T. Bodineau, D. Ioffe and Y. Velenik, *Rigorous probabilistic analysis of equilibrium crystal shapes*, Probabilistic techniques in equilibrium and nonequilibrium statistical physics, J. Math. Phys. 41, no. 3, 1033–1098 (2000)
29. T. Bodineau, D. Ioffe and Y. Velenik, *Winterbottom construction for finite range ferromagnetic models: an L_1 -approach.*, J. Stat. Phys. 105, no. 1–2, 93–131 (2001)
30. T. Bodineau and F. Martinelli, *Some new results on the kinetic Ising model in a pure phase*, J. Stat. Phys. 109, no. 1–2, 207–235 (2002)
31. T. Bodineau, R. Schonmann and S. Shlosman, *3D crystal: how flat its flat facets are?*, Comm. Math. Phys. 255, no. 3, 747–766 (2005)
32. S.R. Broadbent and J.M. Hammersley, *Percolation processes I: Crystals and mazes*, Proceedings of the Cambridge Philosophical Society 53, 629–641 (1957).
33. J.E. Brothers and F. Morgan, *The isoperimetric theorem for general integrands*, Michigan Math. J. 41, no. 3, 419–431 (1994)
34. Y.D. Burago, V.A. Zalgaller, *Geometric inequalities*, Grundlehren der Mathematischen Wissenschaften 285, Springer-Verlag, Berlin (1988)
35. R. Caccioppoli, *Misura e integrazione sugli insiemi dimensionalmente orientati I, II*, Rend. Accad. Naz. Lincei, Cl. Sci. Fis. Mat. Nat., Ser. VIII, Vol. XII, fasc. 1,2 (gennaio–febbraio 1952), 3–11, 137–146
36. R. Caccioppoli, *Misura e integrazione sulle varietà parametriche I, II, III*, Rend. Accad. Naz. Lincei, Cl. Sci. Fis. Mat. Nat., Ser. VIII, Vol. XII, fasc. 3,4,6 (marzo, aprile, giugno 1952), 219–227, 365–373, 629–634
37. R. Cerf, *Large deviations of the finite cluster shape for two-dimensional percolation in the Hausdorff and L^1 metric*, J. Theoret. Probab. 13, no. 2, 491–517 (2000)

38. R. Cerf, *Large deviations for three dimensional supercritical percolation*, Astérisque 267 (2000)
39. R. Cerf, *The Hausdorff lower semicontinuous envelope of the length in the plane*, Ann. Scuola Norm. Sup. Pisa Cl. Sci. (5) I, no. 1, 33–71 (2002)
40. R. Cerf, *On Cramér theory in infinite dimensions*, preprint (2005)
41. R. Cerf and R. Kenyon, *The low temperature expansion of the Wulff crystal in the 3D Ising model*, Comm. Math. Phys. 222, no. 1, 147–179 (2001)
42. R. Cerf and R.J. Messikh, *On the 2d Ising Wulff crystal near criticality*, preprint.
43. R. Cerf and A. Pisztora, *On the Wulff crystal in the Ising model*, Ann. Probab. 28, no. 3, 947–1017 (2000)
44. R. Cerf and A. Pisztora, *Phase coexistence in Ising, Potts and percolation models*, Ann. Inst. H. Poincaré Probab. Statist. 37, no. 6, 643–724 (2001)
45. F. Cesi, G. Guadagni, F. Martinelli and R. Schonmann, *On the 2D stochastic Ising model in the phase coexistence region near the critical point*, J. Stat. Phys. 85, no. 1–2, 55–102 (1996)
46. J.T. Chayes, L. Chayes and R.H. Schonmann, *Exponential decay of connectivities in the two-dimensional Ising model*, J. Stat. Phys. 49, no. 3–4, 433–445 (1987)
47. F. Comets, *Grandes déviations pour des champs de Gibbs sur \mathbb{Z}^d* , C.R. Acad. Sci. Paris Ser. I Math. 303, no. 11, 511–513 (1986)
48. O. Couronné, *The Wulff crystal for oriented percolation*, preprint (2004)
49. O. Couronné, *A large deviation result for the subcritical Bernoulli percolation*, Ann. Fac. Sci. Toulouse Math. (6) 14, no. 2, 201–214 (2005)
50. O. Couronné, *Poisson approximation for large finite clusters in the supercritical FK model*, preprint (2004)
51. O. Couronné and R.J. Messikh, *Surface order large deviations for 2D FK percolation and Potts models*, Stochastic Process. Appl. 113, no. 1, 81–99 (2004)
52. M. Crandall, H. Ishii and P.L. Lions, *User's guide to viscosity solutions of second order partial differential equations*, Bull. Amer. Math. Soc. 27, no. 1, 1–67 (1992).
53. B. Dacorogna and C.-E. Pfister, *Wulff theorem and best constant in Sobolev inequality*, J. Math. Pures Appl. (9) 71, no. 2, 97–118 (1992).
54. E. De Giorgi, *Su una teoria generale della misura $(r-1)$ -dimensionale in uno spazio ad r dimensioni*, Ann. Mat. Pura Appl. IV Ser. 36, 191–213 (1954)
55. E. De Giorgi, *Nuovi teoremi relativi alle misure $(r-1)$ -dimensionali in uno spazio ad r dimensioni*, Ricerche Mat. 4, 95–113 (1955)
56. E. De Giorgi, *Sulla proprietà isoperimetrica dell'ipersfera, nella classe degli insiemi aventi frontiera orientata di misura finita*, Atti Accad. Naz. Lincei, Cl. Sci. Fis. Mat. Nat., VIII Ser. 5, 33–44 (1958)
57. E. De Giorgi, F. Colombini and L.C. Piccinini, *Frontiere orientate di misura minima e questioni collegate*, Scuola Normale Superiore di Pisa (1972)
58. J.-D. Deuschel and A. Pisztora, *Surface order large deviations for high-density percolation*, Probab. Theory Relat. Fields 104, no. 4, 467–482 (1996).
59. J.-D. Deuschel and D.W. Stroock, *Large deviations*, Academic Press (1989)
60. A. Dinghas, *Über einen geometrischen Satz von Wulff für die Gleichgewichtsform von Kristallen*, Z. Kristallogr. 105, 304–314 (1944)
61. R.L. Dobrushin, *Gibbs state describing coexistence of phases for a three-dimensional Ising model*, Theor. Probability Appl. 17, no. 4, 582–600 (1973)
62. R.L. Dobrushin and O. Hryniv, *Fluctuations of the phase boundary in the 2D Ising ferromagnet*, Commun. Math. Phys. 189, no. 2, 395–445 (1997)

63. R.L. Dobrushin, R. Kotecký and S.B. Shlosman, *Wulff construction: a global shape from local interaction*, AMS translations series, Providence (Rhode Island) (1992)
64. R.L. Dobrushin and S.B. Shlosman, *Thermodynamic inequalities for the surface tension and the geometry of the Wulff construction*, Ideas and methods in quantum and statistical physics, S. Albeverio (ed.), Cambridge University Press 2, 461–483 (1992)
65. R.G. Edwards and A.D. Sokal, *Generalization of the Fortuin–Kasteleyn–Swendsen–Wang representation and Monte Carlo algorithm*, Phys. Rev. D (3) 38, no. 6, 2009–2012 (1988)
66. R.S. Ellis, *Entropy, Large Deviations and Statistical Mechanics*, Springer (1985)
67. L.C. Evans and R.F. Gariepy, *Measure theory and fine properties of functions*, Studies in Advanced Mathematics, Boca Raton: CRC Press (1992)
68. K.J. Falconer, *The geometry of fractal sets*, Cambridge Tracts in Mathematics 85, Cambridge Univ. Press (1986)
69. H. Federer, *Geometric measure theory*, Springer-Verlag (1969)
70. H. Föllmer and S. Orey, *Large deviations for the empirical field of a Gibbs measure*, Ann. Probab. 16, no. 3, 961–977 (1988)
71. H. Föllmer and M. Ort, *Large deviations and surface entropy for Markov fields*, Astérisque 157–158, 173–190 (1988)
72. I. Fonseca, *The Wulff theorem revisited*, Proc. R. Soc. Lond. Ser. A 432, no. 1884, 125–145 (1991)
73. I. Fonseca and S. Müller, *A uniqueness proof for the Wulff theorem*, Proc. R. Soc. Edinb. Sect. A 119, no. 1–2, 125–136 (1991)
74. C.M. Fortuin and P.W. Kasteleyn, *On the random-cluster model. I. Introduction and relation to other models.*, Physica 57, 536–564 (1972)
75. H.O. Georgii, O. Häggström and C. Maes, *The random geometry of equilibrium phases*, Phase transitions and critical phenomena, vol. 18, 1–142, Academic Press (2001).
76. E. Giusti, *Metodi diretti nel calcolo delle variazioni*, Unione Matematica Italiana, Bologna (1994).
77. E. Giusti, *Minimal surfaces and functions of bounded variation*, Birkhäuser (1984)
78. G.R. Grimmett, *Percolation*, Second edition. Grundlehren der Mathematischen Wissenschaften 321, Springer-Verlag, Berlin (1999)
79. G.R. Grimmett, *The stochastic random-cluster process and the uniqueness of random-cluster measures*, Ann. Probab. 23, no. 4, 1461–1510 (1995)
80. G.R. Grimmett, *The random-cluster model*, Probability on Discrete Structures, ed. H. Kesten, Encyclopedia of Mathematical Sciences, vol. 110, 73–123, Springer (2004)
81. G.R. Grimmett and J.M. Marstrand, *The supercritical phase of percolation is well behaved*, Proc. R. Soc. Lond. Ser. A 430, no. 1879, 439–457 (1990)
82. G.R. Grimmett and M.S.T. Piza, *Decay of correlations in random-cluster models*, Comm. Math. Phys. 189, no. 2, 465–480 (1997)
83. G. Gielis and G.R. Grimmett, *Rigidity of the interface in percolation and random cluster models*, J. Stat. Phys. 109, no. 1–2, 1–37 (2002)
84. B.L. Gurevich and G.E. Shilov, *Integral, measure and derivative: a unified approach*, Prentice-Hall (1966)
85. J. Hass and R. Schlafly, *Double bubbles minimize*, Ann. of Math. (2) 151, no. 2, 459–515 (2000)

86. R. Holley, *Remarks on the FKG inequalities*, Commun. Math. Phys. 36, 227–231 (1974)
87. J. Hass, M. Hutchings and R. Schlafly, *The double bubble conjecture*, Electron. Res. Announc. Amer. Math. Soc. 1, no. 3, 98–102 (electronic) (1995)
88. M. Hutchings, F. Morgan, M. Ritoré and A. Ros, *Proof of the double bubble conjecture*, Ann. of Math. (2) 155, no. 2, 459–489 (2002)
89. O. Hryniv, *On local behaviour of the phase separation line in the 2D Ising model*, Probab. Theory Relat. Fields 110, no. 1, 91–107 (1998)
90. D. Ioffe, *Large deviations for the 2D Ising model: a lower bound without cluster expansions*, J. Stat. Phys. 74, no. 1–2, 411–432 (1994)
91. D. Ioffe, *Exact large deviation bounds up to T_c for the Ising model in two dimensions*, Probab. Theory Relat. Fields 102, no. 3, 313–330 (1995)
92. D. Ioffe and R. Schonmann, *Dobrushin–Kotecký–Shlosman Theorem up to the critical temperature*, Comm. Math. Phys. 199, no. 1, 117–167 (1998)
93. H. Kesten and Y. Zhang, *The probability of a large finite cluster in supercritical Bernoulli percolation*, Ann. Probab. 18, no. 2, 537–555 (1990)
94. O.E. Lanford, *Entropy and equilibrium states in classical statistical mechanics*, Statistical Mechanics and Mathematical Problems, Lecture Notes in Physics 20, 1–113 (1971)
95. J.L. Lebowitz, *Coexistence of phases in Ising ferromagnets*, J. Stat. Phys. 16, no. 6, 463–476 (1977)
96. J.L. Lebowitz and A. Martin-Löf, *On the uniqueness of the equilibrium state for Ising spin systems*, Comm. Math. Phys. 25, 276–282 (1972)
97. J.L. Lebowitz and C.E. Pfister, *Surface tension and phase coexistence*, Phys. Rev. Letters 46, no. 15, 1031–1033 (1981)
98. T.M. Liggett, R.H. Schonmann and A.M. Stacey, *Domination by product measures*, Ann. Probab. 25, no. 1, 71–95 (1997)
99. B.M. McCoy and T.T. Wu, *The Two Dimensional Ising Model*, Cambridge, MA: Harvard University Press (1973)
100. P. Mattila, *Geometry of sets and measures in Euclidean spaces*, Fractals and rectifiability. Cambridge Studies in Advanced Mathematics 44 (1995)
101. U. Massari and M. Miranda, *Minimal surfaces of codimension one*, North-Holland Mathematics Studies 91, Notas de Matematica 95 (1984)
102. A. Messenger, S. Miracle-Solé and J. Ruiz, *Convexity properties of the surface tension and equilibrium crystals*, J. Stat. Phys. 67, no. 3–4, 449–470 (1992)
103. R.J. Messikh, *Asymptotiques de la tension de surface du modèle d’Ising 2-d près de la température critique*, Mémoire de DEA, Orsay.
104. R.J. Messikh, *On the surface tension of the 2d Ising model near criticality*, in preparation.
105. R.J. Messikh, *Approximation of a Mumford–Shah functional using the Ising model: theory and numerics*, in preparation.
106. S. Miracle-Solé, *Surface tension, step free energy, and facets in the equilibrium crystal*, J. Stat. Phys. 79, no. 1–2, 183–214 (1995)
107. C.M. Newman, *Disordered Ising systems and random cluster representations*, in Probability and Phase Transition, Kluwer, 247–260 (1994)
108. S. Olla, *Large deviations for Gibbs random fields*, Probab. Theory Relat. Fields 77, no. 3, 343–357 (1988)
109. C.-E. Pfister, *Large deviations and phase separation in the two-dimensional Ising model*, Helv. Phys. Acta 64, no. 7, 953–1054 (1991)

110. C.-E. Pfister, *Thermodynamical aspects of classical lattice systems*, In and out of equilibrium (Mambucaba, 2000), 393–472, Progr. Probab. 51, Birkhäuser Boston, Boston, MA (2002)
111. C.-E. Pfister and Y. Velenik, *Large deviations and continuum limit in the 2D Ising model*, Probab. Theory Relat. Fields 109, no. 4, 435–506 (1997)
112. A. Pisztora, *Surface order large deviations for Ising, Potts and percolation models*, Prob. Theor. Rel. Fields 104, 427–466 (1996)
113. R.T. Rockafellar, *Convex Analysis*, Princeton University Press (1970)
114. W. Rudin, *Real and complex analysis*, McGraw–Hill, 3rd ed. (1987)
115. W. Rudin, *Functional Analysis*, McGraw–Hill (1973)
116. R.H. Schonmann, *Second order large deviation estimates for ferromagnetic systems in the phase coexistence region*, Comm. Math. Phys. 112, no. 3, 409–422 (1987)
117. R.H. Schonmann, *Slow droplet-driven relaxation of stochastic Ising models in the vicinity of the phase coexistence region*, Comm. Math. Phys. 161, no. 1, 1–49 (1994)
118. R.H. Schonmann and S.B. Shlosman, *Constrained variational problem with applications to the Ising model*, J. Stat. Phys. 83, no. 5–6, 867–905 (1996)
119. R.H. Schonmann and S.B. Shlosman, *Complete analyticity for the 2D Ising model completed*, Commun. Math. Phys. 170, no. 2, 453–482 (1995)
120. R.H. Schonmann and S.B. Shlosman, *Wulff droplets and the metastable relaxation of kinetic Ising models*, Commun. Math. Phys. 194, no. 2, 389–462 (1998)
121. T. Seppäläinen, *Entropy for translation-invariant random-cluster measures*, Ann. Probab. 26, no. 3, 1139–1178 (1998)
122. R.T. Smythe, *Multiparameter subadditive processes*, Ann. Probability 4, no. 5, 772–782 (1976)
123. J.M. Steele, *Probability theory and combinatorial optimization*, SIAM (1997)
124. J.E. Taylor, *Crystalline variational problems*, Bull. Am. Math. Soc. 84, no. 4, 568–588 (1978)
125. J.E. Taylor, *Existence and structure of solutions to a class of nonelliptic variational problems*, Symposia Mathematica 14, no. 4, 499–508 (1974)
126. J.E. Taylor, *Unique structure of solutions to a class of nonelliptic variational problems*, Proc. Symp. pure Math. 27, 419–427 (1975)
127. Y. Velenik, *Phase separation as a large deviations problem: a microscopic derivation of surface thermodynamics in some 2D spin systems*, PhD Thesis, EPFL, Lausanne (1997)
128. A. Visintin, *Models of phase transitions*, Progress in Nonlinear Differential Equations and their Applications 28, Birkhäuser Boston (1996)
129. A. Visintin, *Generalized coarea formula and fractal sets*, Japan J. Indust. Appl. Math. 8, no. 2, 175–201 (1991)
130. W.L. Winterbottom, *Equilibrium shape of a small particle in contact with a foreign substrate*, Acta Metallurgica 15, 303–310 (1967)
131. G. Wulff, *Zur Frage der Geschwindigkeit des Wachstums und der Auflösung der Kristallflächen*, Z. Kristallogr. 34, 449–530 (1901)
132. B. Younovitch, *Sur la dérivation des fonctions absolument additives d'ensemble*, C. R. (Doklady) Acad. Sci. URSS, n. Ser. 30, 112–114 (1941)
133. W.P. Ziemer, *Weakly differentiable functions. Sobolev spaces and functions of bounded variation*, Graduate texts in Mathematics 120, Springer–Verlag (1989)

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