

References

1. Alperin, J.L.: The main problem of block theory. In: Proceedings of the Conference on Finite Groups (University of Utah, Park City, UT, 1975), pp. 341–356. Academic, New York (1976)
2. Alperin, J.L.: Weights for finite groups. In: The Arcata Conference on Representations of Finite Groups (Arcata, CA, 1986), Proceedings of the Symposium on Pure Mathematics, vol. 47.1, pp. 369–379. American Mathematical Society, Providence (1987)
3. Alperin, J.L., Brauer, R., Gorenstein, D.: Finite simple groups of 2-rank two. *Scripta Math.* **29**(3–4), 191–214 (1973). Collection of articles dedicated to the memory of Abraham Adrian Albert
4. Alperin, J.L., Broué, M.: Local methods in block theory. *Ann. Math. (2)* **110**(1), 143–157 (1979)
5. An, J.: Dade’s conjecture for the Tits group. *New Zealand J. Math.* **25**(2), 107–131 (1996)
6. An, J.: The Alperin and Dade conjectures for Ree groups ${}^2F_4(q^2)$ in non-defining characteristics. *J. Algebra* **203**(1), 30–49 (1998)
7. An, J.: Controlled blocks of the finite quasisimple groups for odd primes. *Adv. Math.* **227**(3), 1165–1194 (2011)
8. An, J., Dietrich, H.: The AWC-goodness and essential rank of sporadic simple groups. *J. Algebra* **356**, 325–354 (2012)
9. An, J., Dietrich, H.: The essential rank of fusion systems of blocks of symmetric groups. *Int. J. Algebra Comput.* **22**(1), 1250002, 15 (2012)
10. An, J., Dietrich, H.: The essential rank of Brauer categories for finite groups of lie type. *Bull. Lond. Math. Soc.* **45**(2), 363–369 (2013)
11. An, J., Eaton, C.W.: Modular representation theory of blocks with trivial intersection defect groups. *Algebr. Represent. Theory* **8**(3), 427–448 (2005)
12. An, J., Eaton, C.W.: Blocks with extraspecial defect groups of finite quasisimple groups. *J. Algebra* **328**, 301–321 (2011)
13. An, J., Eaton, C.W.: Nilpotent blocks of quasisimple groups for odd primes. *J. Reine Angew. Math.* **656**, 131–177 (2011)
14. An, J., Eaton, C.W.: Nilpotent blocks of quasisimple groups for the prime two. *Algebr. Represent. Theory* **16**(1), 1–28 (2013)
15. An, J., O’Brien, E.A.: The Alperin and Dade conjectures for the O’Nan and Rudvalis simple groups. *Commun. Algebra* **30**(3), 1305–1348 (2002)
16. An, J., O’Brien, E.A., Wilson, R.A.: The Alperin weight conjecture and Dade’s conjecture for the simple group J_4 . *LMS J. Comput. Math.* **6**, 119–140 (2003)
17. Andersen, K.K.S., Oliver, B., Ventura, J.: Reduced, tame and exotic fusion systems. *Proc. Lond. Math. Soc. (3)* **105**(1), 87–152 (2012)

18. Aschbacher, M.: Simple connectivity of p -group complexes. *Israel J. Math.* **82**(1–3), 1–43 (1993)
19. Aschbacher, M., Kessar, R., Oliver, B.: *Fusion Systems in Algebra and Topology*. London Mathematical Society Lecture Note Series, vol. 391. Cambridge University Press, Cambridge (2011)
20. Barker, L.: On p -soluble groups and the number of simple modules associated with a given Brauer pair. *Q. J. Math. Oxford Ser. (2)* **48**(190), 133–160 (1997)
21. Barnes, E.S.: Minkowski's fundamental inequality for reduced positive quadratic forms. *J. Aust. Math. Soc. Ser. A* **26**(1), 46–52 (1978)
22. Bender, H.: Transitive Gruppen gerader Ordnung, in denen jede Involution genau einen Punkt festläßt. *J. Algebra* **17**, 527–554 (1971)
23. Berkovich, Y.: *Groups of Prime Power Order*, vol. 1. de Gruyter Expositions in Mathematics, vol. 46. Walter de Gruyter GmbH & Co. KG, Berlin (2008)
24. Berkovich, Y., Janko, Z.: *Groups of Prime Power Order*, vol. 2. de Gruyter Expositions in Mathematics, vol. 47. Walter de Gruyter GmbH & Co. KG, Berlin (2008)
25. Berkovich, Y., Janko, Z.: *Groups of Prime Power Order*, vol. 3. de Gruyter Expositions in Mathematics, vol. 56. Walter de Gruyter GmbH & Co. KG, Berlin (2011)
26. Bertels, J.: *Blöcke mit der 2-sylowgruppe von $PSU(3, 4)$ als defektgruppe*. Diplomarbeit, Jena (2012)
27. Bessenrodt, C., Olsson, J.B.: Spin representations and powers of 2. *Algebr. Represent. Theory* **3**(3), 289–300 (2000)
28. Blackburn, N.: On a special class of p -groups. *Acta Math.* **100**, 45–92 (1958)
29. Blackburn, N.: Über das Produkt von zwei zyklischen 2-Gruppen. *Math. Z.* **68**, 422–427 (1958)
30. Blackburn, N.: Generalizations of certain elementary theorems on p -groups. *Proc. Lond. Math. Soc. (3)* **11**, 1–22 (1961)
31. Brandt, H., Intrau, O.: Tabellen reduzierter positiver ternärer quadratischer Formen. *Abh. Sächs. Akad. Wiss. Math.-Nat. Kl.* **45**(4), 1–261 (1958)
32. Brandt, J.: A lower bound for the number of irreducible characters in a block. *J. Algebra* **74**(2), 509–515 (1982)
33. Brauer, R.: Investigations on group characters. *Ann. Math. (2)* **42**, 936–958 (1941)
34. Brauer, R.: Number theoretical investigations on groups of finite order. In: *Proceedings of the International Symposium on Algebraic Number Theory*, Tokyo and Nikko, 1955, pp. 55–62. Science Council of Japan, Tokyo (1956)
35. Brauer, R.: On the structure of groups of finite order. In: *Proceedings of the International Congress of Mathematicians*, Amsterdam, 1954, vol. 1, pp. 209–217. Erven P. Noordhoff N.V., Groningen (1957)
36. Brauer, R.: Representations of finite groups. In: *Lectures on Modern Mathematics*, vol. I, pp. 133–175. Wiley, New York (1963)
37. Brauer, R.: Some applications of the theory of blocks of characters of finite groups. I. *J. Algebra* **1**, 152–167 (1964)
38. Brauer, R.: Some applications of the theory of blocks of characters of finite groups. II. *J. Algebra* **1**, 307–334 (1964)
39. Brauer, R.: On blocks and sections in finite groups. II. *Am. J. Math.* **90**, 895–925 (1968)
40. Brauer, R.: Defect groups in the theory of representations of finite groups. III. *J. Math.* **13**, 53–73 (1969)
41. Brauer, R.: On 2-blocks with dihedral defect groups. In: *Symposia Mathematica*, vol. XIII (Convegno di Gruppi e loro Rappresentazioni, INDAM, Rome, 1972), pp. 367–393. Academic, London (1974)
42. Brauer, R., Feit, W.: On the number of irreducible characters of finite groups in a given block. *Proc. Natl. Acad. Sci. USA* **45**, 361–365 (1959)
43. Brauer, R., Nesbitt, C.: On the modular characters of groups. *Ann. Math. (2)* **42**, 556–590 (1941)

44. Broué, M.: On characters of height zero. In: The Santa Cruz Conference on Finite Groups (University of California, Santa Cruz, CA, 1979), Proceedings of the Symposium on Pure Mathematics, vol. 37, pp. 393–396. American Mathematical Society, Providence (1980)
45. Broué, M.: Les l -blocs des groupes $GL(n, q)$ et $U(n, q^2)$ et leurs structures locales. *Astérisque* **133–134**, 159–188 (1986). Seminar Bourbaki, vol. 1984/85
46. Broué, M.: Isométries de caractères et équivalences de Morita ou dérivées. *Inst. Hautes Études Sci. Publ. Math.* **71**, 45–63 (1990)
47. Broué, M.: Isométries parfaites, types de blocs, catégories dérivées. *Astérisque* **181–182**, 61–92 (1990)
48. Broué, M.: Equivalences of blocks of group algebras. In: Finite-Dimensional Algebras and Related Topics (Ottawa, ON, 1992), NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci., vol. 424, pp. 1–26. Kluwer Academic Publishers, Dordrecht (1994)
49. Broué, M., Olsson, J.B.: Subpair multiplicities in finite groups. *J. Reine Angew. Math.* **371**, 125–143 (1986)
50. Brunat, O., Gramain, J.B.: Perfect isometries and murnaghan-nakayama rules (2013). [arXiv: 1305.7449v1](https://arxiv.org/abs/1305.7449v1)
51. Cabanes, M., Enguehard, M.: Representation Theory of Finite Reductive Groups. New Mathematical Monographs, vol. 1. Cambridge University Press, Cambridge (2004)
52. Cabanes, M., Picaconny, C.: Types of blocks with dihedral or quaternion defect groups. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **39**(1), 141–161 (1992). Revised version: <http://www.math.jussieu.fr/~cabanes/type99.pdf>
53. Camina, A.R., Herzog, M.: Character tables determine abelian Sylow 2-subgroups. *Proc. Am. Math. Soc.* **80**(3), 533–535 (1980)
54. Carter, R.W.: Centralizers of semisimple elements in the finite classical groups. *Proc. Lond. Math. Soc.* (3) **42**(1), 1–41 (1981)
55. Carter, R.W.: Finite Groups of Lie Type. Pure and Applied Mathematics (New York). Wiley, New York (1985). Conjugacy classes and complex characters, A Wiley-Interscience Publication
56. Chlebowitz, M., Külshammer, B.: Symmetric local algebras with 5-dimensional center. *Trans. Am. Math. Soc.* **329**(2), 715–731 (1992)
57. Clelland, M.R.: Saturated fusion systems and finite groups. Ph.D. thesis, Birmingham (2006)
58. Conlon, S.B.: Twisted group algebras and their representations. *J. Aust. Math. Soc.* **4**, 152–173 (1964)
59. Conway, J.H., Curtis, R.T., Norton, S.P., Parker, R.A., Wilson, R.A.: ATLAS of finite groups. Oxford University Press, Eynsham (1985). Maximal subgroups and ordinary characters for simple groups, With computational assistance from J.G. Thackray
60. Craven, D.A.: Control of fusion and solubility in fusion systems. *J. Algebra* **323**(9), 2429–2448 (2010)
61. Craven, D.A.: The Theory of Fusion Systems. Cambridge Studies in Advanced Mathematics, vol. 131. Cambridge University Press, Cambridge (2011). An algebraic approach
62. Craven, D.A., Eaton, C.W., Kessar, R., Linckelmann, M.: The structure of blocks with a Klein four defect group. *Math. Z.* **268**(1–2), 441–476 (2011)
63. Craven, D.A., Glessner, A.: Fusion systems on small p -groups. *Trans. Am. Math. Soc.* **364**(11), 5945–5967 (2012)
64. Curtis, C.W., Reiner, I.: Methods of Representation Theory. Vol. I. Wiley Classics Library. Wiley, New York (1990). With applications to finite groups and orders, Reprint of the 1981 original, A Wiley-Interscience Publication
65. Dade, E.C.: Blocks with cyclic defect groups. *Ann. Math.* (2) **84**, 20–48 (1966)
66. Díaz, A., Glessner, A., Park, S., Stancu, R.: Tate’s and Yoshida’s theorems on control of transfer for fusion systems. *J. Lond. Math. Soc.* (2) **84**(2), 475–494 (2011)
67. Díaz, A., Ruiz, A., Viruel, A.: All p -local finite groups of rank two for odd prime p . *Trans. Am. Math. Soc.* **359**(4), 1725–1764 (2007)
68. Dietz, J.: Stable splittings of classifying spaces of metacyclic p -groups, p odd. *J. Pure Appl. Algebra* **90**(2), 115–136 (1993)

69. Donovan, P.W.: Dihedral defect groups. *J. Algebra* **56**(1), 184–206 (1979)
70. Du, S., Jones, G., Kwak, J.H., Nedela, R., Škovič, M.: 2-Groups that factorise as products of cyclic groups, and regular embeddings of complete bipartite graphs. *Ars Math. Contemp.* **6**(1), 155–170 (2013)
71. Düvel, O.: On Donovan’s conjecture. *J. Algebra* **272**(1), 1–26 (2004)
72. Eaton, C.W.: Generalisations of conjectures of Brauer and Olsson. *Arch. Math. (Basel)* **81**(6), 621–626 (2003)
73. Eaton, C.W.: The equivalence of some conjectures of Dade and Robinson. *J. Algebra* **271**(2), 638–651 (2004)
74. Eaton, C.W., Kessar, R., Külshammer, B., Sambale, B.: 2-Blocks with abelian defect groups. *Adv. Math.* **254**, 706–735 (2014)
75. Eaton, C.W., Külshammer, B., Sambale, B.: 2-Blocks with minimal nonabelian defect groups ii. *J. Group Theory* **15**, 311–321 (2012)
76. Eaton, C.W., Moretó, A.: Extending Brauer’s Height Zero Conjecture to blocks with nonabelian defect groups. *Int. Math. Res. Not.* **2014**(20), 5581–5601 (2014)
77. Enguehard, M.: Isométries parfaites entre blocs de groupes symétriques. *Astérisque* **181–182**, 157–171 (1990)
78. Enguehard, M.: Vers une décomposition de Jordan des blocs des groupes réductifs finis. *J. Algebra* **319**(3), 1035–1115 (2008)
79. Erdmann, K.: Blocks whose defect groups are Klein four groups: a correction. *J. Algebra* **76**(2), 505–518 (1982)
80. Erdmann, K.: Blocks of Tame Representation Type and Related Algebras. *Lecture Notes in Mathematics*, vol. 1428. Springer, Berlin (1990)
81. Feit, W.: The Representation Theory of Finite Groups. North-Holland Mathematical Library, vol. 25. North-Holland Publishing, Amsterdam (1982)
82. Fleischmann, P.: Finite groups with regular orbits on vector spaces. *J. Algebra* **103**(1), 211–215 (1986)
83. Fong, P.: On the characters of p -solvable groups. *Trans. Am. Math. Soc.* **98**, 263–284 (1961)
84. Fong, P., Harris, M.E.: On perfect isometries and isotypies in finite groups. *Invent. Math.* **114**(1), 139–191 (1993)
85. Fong, P., Srinivasan, B.: The blocks of finite general linear and unitary groups. *Invent. Math.* **69**(1), 109–153 (1982)
86. Fujii, M.: On determinants of Cartan matrices of p -blocks. *Proc. Jpn. Acad. Ser. A Math. Sci.* **56**(8), 401–403 (1980)
87. Gantmacher, F.R.: *Matrizentheorie*. Hochschulbücher für Mathematik, vol. 86. VEB Deutscher Verlag der Wissenschaften, Berlin (1986)
88. Gao, S.: On Brauer’s $k(B)$ -problem for blocks with metacyclic defect groups of odd order. *Arch. Math. (Basel)* **96**(6), 507–512 (2011)
89. Gao, S.: Blocks of full defect with nonabelian metacyclic defect groups. *Arch. Math. (Basel)* **98**, 1–12 (2012)
90. Gao, S., Zeng, J.: On the number of ordinary irreducible characters in a p -block with a minimal nonabelian defect group. *Commun. Algebra* **39**(9), 3278–3297 (2011)
91. Glesser, A.: Sparse fusion systems. *Proc. Edinb. Math. Soc. (2)* **56**(1), 135–150 (2013)
92. Gluck, D.: Rational defect groups and 2-rational characters. *J. Group Theory* **14**(3), 401–412 (2011)
93. Gluck, D., Wolf, T.R.: Brauer’s height conjecture for p -solvable groups. *Trans. Am. Math. Soc.* **282**(1), 137–152 (1984)
94. Gorenstein, D.: *Finite groups*. Harper & Row Publishers, New York (1968)
95. Gorenstein, D., Harada, K.: *Finite Groups Whose 2-Subgroups are Generated by at Most 4 Elements*. American Mathematical Society, Providence (1974). *Memoirs of the American Mathematical Society*, No. 147
96. Gorenstein, D., Lyons, R.: The local structure of finite groups of characteristic 2 type. *Mem. Am. Math. Soc.* **42**(276), 1–731 (1983)

97. Gorenstein, D., Lyons, R., Solomon, R.: The Classification of the Finite Simple Groups. Number 3. Part I. Chapter A. Mathematical Surveys and Monographs, vol. 40. American Mathematical Society, Providence (1998). Almost simple K -groups
98. Gorenstein, D., Walter, J.H.: The characterization of finite groups with dihedral Sylow 2-subgroups. I. *J. Algebra* **2**, 85–151 (1965)
99. Grove, L.C.: Classical Groups and Geometric Algebra. Graduate Studies in Mathematics, vol. 39. American Mathematical Society, Providence (2002)
100. Guralnick, R.M.: Commutators and commutator subgroups. *Adv. Math.* **45**(3), 319–330 (1982)
101. Halasi, Z., Podoski, K.: Every coprime linear group admits a base of size two (2013). [arXiv: 1212.0199v2](https://arxiv.org/abs/1212.0199v2)
102. Hall Jr., M.: The Theory of Groups. The Macmillan Co., New York (1959)
103. Hall, M., Jr., Senior, J.K.: The Groups of Order 2^n ($n \leq 6$). The Macmillan Co., New York (1964)
104. Harada, K.: Groups with a certain type of Sylow 2-subgroups. *J. Math. Soc. Jpn.* **19**, 203–307 (1967)
105. Harris, M.E., Knörr, R.: Brauer correspondence for covering blocks of finite groups. *Commun. Algebra* **13**(5), 1213–1218 (1985)
106. Hartley, B., Turull, A.: On characters of coprime operator groups and the Glauberman character correspondence. *J. Reine Angew. Math.* **451**, 175–219 (1994)
107. Hendren, S.: Extra special defect groups of order p^3 and exponent p^2 . *J. Algebra* **291**(2), 457–491 (2005)
108. Hendren, S.: Extra special defect groups of order p^3 and exponent p . *J. Algebra* **313**(2), 724–760 (2007)
109. Henke, E.: A characterization of saturated fusion systems over abelian 2-groups. *Adv. Math.* **257**, 1–5 (2014)
110. Hering, C.: Transitive linear groups and linear groups which contain irreducible subgroups of prime order. *Geometriae Dedicata* **2**, 425–460 (1974)
111. Hermann, P.Z.: On finite p -groups with isomorphic maximal subgroups. *J. Aust. Math. Soc. Ser. A* **48**(2), 199–213 (1990)
112. Héthelyi, L., Kessar, R., Külshammer, B., Sambale, B.: Blocks with transitive fusion systems. (2014, submitted)
113. Héthelyi, L., Külshammer, B.: Characters, conjugacy classes and centrally large subgroups of p -groups of small rank. *J. Algebra* **340**, 199–210 (2011)
114. Héthelyi, L., Külshammer, B., Sambale, B.: A note on olsson’s conjecture. *J. Algebra* **398**, 364–385 (2014)
115. Higman, G.: Suzuki 2-groups. III. *J. Math.* **7**, 79–96 (1963)
116. Hiss, G.: Morita equivalences between blocks of finite chevalley groups. In: *Proceedings of Representation Theory of Finite and Algebraic Groups*, Osaka University, pp. 128–136 (2000)
117. Hiss, G., Kessar, R.: Scopes reduction and Morita equivalence classes of blocks in finite classical groups. *J. Algebra* **230**(2), 378–423 (2000)
118. Hiss, G., Kessar, R.: Scopes reduction and Morita equivalence classes of blocks in finite classical groups. II. *J. Algebra* **283**(2), 522–563 (2005)
119. Hiss, G., Lux, K.: *Brauer Trees of Sporadic Groups*. Oxford Science Publications. The Clarendon Press Oxford University Press, New York (1989)
120. Holloway, M., Koshitani, S., Kunugi, N.: Blocks with nonabelian defect groups which have cyclic subgroups of index p . *Arch. Math. (Basel)* **94**(2), 101–116 (2010)
121. Holm, T.: *Blocks of tame representation type and related algebras: derived equivalences and hochschild cohomology*. Habilitationsschrift, Magdeburg (2001)
122. Holm, T.: Notes on donovan’s conjecture for blocks of tame representation type (2014). <http://www.iazd.uni-hannover.de/~tholm/ARTIKEL/donovan.ps>
123. Holm, T., Kessar, R., Linckelmann, M.: Blocks with a quaternion defect group over a 2-adic ring: the case A_4 . *Glasg. Math. J.* **49**(1), 29–43 (2007)

124. Horimoto, H., Watanabe, A.: On a perfect isometry between principal p -blocks of finite groups with cyclic p -hyperfocal subgroups (2012). Preprint
125. Humphreys, J.E.: Defect groups for finite groups of Lie type. *Math. Z.* **119**, 149–152 (1971)
126. Huppert, B.: Über das Produkt von paarweise vertauschbaren zyklischen Gruppen. *Math. Z.* **58**, 243–264 (1953)
127. Huppert, B.: Zweifach transitive, auflösbare Permutationsgruppen. *Math. Z.* **68**, 126–150 (1957)
128. Huppert, B.: Endliche Gruppen. I. Die Grundlehren der Mathematischen Wissenschaften, Band 134. Springer, Berlin (1967)
129. Huppert, B., Blackburn, N.: Finite Groups. II. Grundlehren der Mathematischen Wissenschaften, vol. 242. Springer, Berlin (1982)
130. Huppert, B., Blackburn, N.: Finite Groups. III. Grundlehren der Mathematischen Wissenschaften, vol. 243. Springer, Berlin (1982)
131. Isaacs, I.M.: Blocks with just two irreducible Brauer characters in solvable groups. *J. Algebra* **170**(2), 487–503 (1994)
132. Isaacs, I.M.: Finite Group Theory. Graduate Studies in Mathematics, vol. 92. American Mathematical Society, Providence (2008)
133. Isaacs, I.M., Navarro, G.: Characters of p' -degree of p -solvable groups. *J. Algebra* **246**(1), 394–413 (2001)
134. Isaacs, I.M., Navarro, G.: New refinements of the McKay conjecture for arbitrary finite groups. *Ann. Math. (2)* **156**(1), 333–344 (2002)
135. Itô, N.: Über das Produkt von zwei zyklischen 2-Gruppen. *Publ. Math. Debrecen* **4**, 517–520 (1956)
136. Itô, N., Ôhara, A.: Sur les groupes factorisables par deux 2-groupes cycliques. I. Cas où leur groupe des commutateurs est cyclique. *Proc. Jpn. Acad.* **32**, 736–740 (1956)
137. Itô, N., Ôhara, A.: Sur les groupes factorisables par deux 2-groupes cycliques. II. Cas où leur groupe des commutateurs n'est pas cyclique. *Proc. Jpn. Acad.* **32**, 741–743 (1956)
138. Jacobsen, M.W.: Block fusion systems of the alternating groups (2012). [arXiv:1204.2702v1](https://arxiv.org/abs/1204.2702v1)
139. James, G., Kerber, A.: The Representation Theory of the Symmetric Group. *Encyclopedia of Mathematics and its Applications*, vol. 16. Addison-Wesley Publishing, Reading (1981). With a foreword by P.M. Cohn, With an introduction by Gilbert de B. Robinson
140. Janko, Z.: Finite 2-groups with exactly one nonmetacyclic maximal subgroup. *Israel J. Math.* **166**, 313–347 (2008)
141. Johnson, N.L., Jha, V., Biliotti, M.: Handbook of Finite Translation Planes. *Pure and Applied Mathematics (Boca Raton)*, vol. 289. Chapman & Hall/CRC, Boca Raton (2007)
142. Karpilovsky, G.: The Schur Multiplier. *London Mathematical Society Monographs. New Series*, vol. 2. The Clarendon Press Oxford University Press, New York (1987)
143. Keller, T.M., Yang, Y.: Abelian quotients and orbit sizes of finite groups (2014). [arXiv:1407.6436v1](https://arxiv.org/abs/1407.6436v1)
144. Kemper, G., Lübeck, F., Magaard, K.: Matrix generators for the Ree groups ${}^2G_2(q)$. *Commun. Algebra* **29**(1), 407–413 (2001)
145. Kessar, R.: Blocks and source algebras for the double covers of the symmetric and alternating groups. *J. Algebra* **186**(3), 872–933 (1996)
146. Kessar, R.: Scopes reduction for blocks of finite alternating groups. *Q. J. Math.* **53**(4), 443–454 (2002)
147. Kessar, R.: Introduction to block theory. In: *Group Representation Theory*, pp. 47–77. EPFL Press, Lausanne (2007)
148. Kessar, R., Koshitani, S., Linckelmann, M.: Conjectures of Alperin and Broué for 2-blocks with elementary abelian defect groups of order 8. *J. Reine Angew. Math.* **671**, 85–130 (2012)
149. Kessar, R., Linckelmann, M.: On blocks with Frobenius inertial quotient. *J. Algebra* **249**(1), 127–146 (2002)
150. Kessar, R., Linckelmann, M.: On perfect isometries for tame blocks. *Bull. Lond. Math. Soc.* **34**(1), 46–54 (2002)
151. Kessar, R., Linckelmann, M., Navarro, G.: A characterisation of nilpotent blocks (2014). [arXiv:1402.5871v1](https://arxiv.org/abs/1402.5871v1)

152. Kessar, R., Malle, G.: Quasi-isolated blocks and Brauer's height zero conjecture. *Ann. Math.* (2) **178**(1), 321–384 (2013)
153. Kessar, R., Stancu, R.: A reduction theorem for fusion systems of blocks. *J. Algebra* **319**(2), 806–823 (2008)
154. Kiyota, M.: On 3-blocks with an elementary abelian defect group of order 9. *J. Fac. Sci. Univ. Tokyo Sect. IA Math.* **31**(1), 33–58 (1984)
155. Klein, A.A.: On Fermat's theorem for matrices and the periodic identities of $M_n(\text{GF}(q))$. *Arch. Math. (Basel)* **34**(5), 399–402 (1980)
156. Koshitani, S.: Conjectures of Donovan and Puig for principal 3-blocks with abelian defect groups. *Commun. Algebra* **31**(5), 2229–2243 (2003)
157. Koshitani, S., Külshammer, B., Sambale, B.: On loewy lengths of blocks. *Math. Proc. Camb. Philos. Soc.* **156**(3), 555–570 (2014)
158. Koshitani, S., Miyachi, H.: Donovan conjecture and Loewy length for principal 3-blocks of finite groups with elementary abelian Sylow 3-subgroup of order 9. *Commun. Algebra* **29**(10), 4509–4522 (2001)
159. Kurzweil, H., Stellmacher, B.: *The Theory of Finite Groups*. Universitext. Springer, New York (2004)
160. Külshammer, B.: On 2-blocks with wreathed defect groups. *J. Algebra* **64**, 529–555 (1980)
161. Külshammer, B.: On p -blocks of p -solvable groups. *Commun. Algebra* **9**(17), 1763–1785 (1981)
162. Külshammer, B.: Symmetric local algebras and small blocks of finite groups. *J. Algebra* **88**(1), 190–195 (1984)
163. Külshammer, B.: Crossed products and blocks with normal defect groups. *Commun. Algebra* **13**(1), 147–168 (1985)
164. Külshammer, B.: A remark on conjectures in modular representation theory. *Arch. Math. (Basel)* **49**(5), 396–399 (1987)
165. Külshammer, B.: Landau's theorem for p -blocks of p -solvable groups. *J. Reine Angew. Math.* **404**, 189–191 (1990)
166. Külshammer, B.: Donovan's conjecture, crossed products and algebraic group actions. *Israel J. Math.* **92**(1–3), 295–306 (1995)
167. Külshammer, B., Navarro, G., Sambale, B., Tiep, P.H.: On finite groups with two conjugacy classes of p -elements and related questions for p -blocks. *Bull. Lond. Math. Soc.* **46**(2), 305–314 (2014)
168. Külshammer, B., Okuyama, T.: On centrally controlled blocks of finite groups. (unpublished)
169. Külshammer, B., Puig, L.: Extensions of nilpotent blocks. *Invent. Math.* **102**(1), 17–71 (1990)
170. Külshammer, B., Robinson, G.R.: Alperin-McKay implies Brauer's problem 21. *J. Algebra* **180**(1), 208–210 (1996)
171. Külshammer, B., Sambale, B.: The 2-blocks of defect 4. *Represent. Theory* **17**, 226–236 (2013)
172. Külshammer, B., Wada, T.: Some inequalities between invariants of blocks. *Arch. Math. (Basel)* **79**(2), 81–86 (2002)
173. Landrock, P.: A counterexample to a conjecture on the Cartan invariants of a group algebra. *Bull. Lond. Math. Soc.* **5**, 223–224 (1973)
174. Landrock, P.: Finite groups with a quasisimple component of type $\text{PSU}(3, 2^n)$ on elementary abelian form. *Ill. J. Math.* **19**, 198–230 (1975)
175. Landrock, P.: The non-principal 2-blocks of sporadic simple groups. *Commun. Algebra* **6**(18), 1865–1891 (1978)
176. Landrock, P.: On the number of irreducible characters in a 2-block. *J. Algebra* **68**(2), 426–442 (1981)
177. Leedham-Green, C.R., Plesken, W.: Some remarks on Sylow subgroups of general linear groups. *Math. Z.* **191**(4), 529–535 (1986)
178. Liebeck, H.: The location of the minimum of a positive definite integral quadratic form. *J. Lond. Math. Soc. (2)* **3**, 477–484 (1971)
179. Liedahl, S.: Enumeration of metacyclic p -groups. *J. Algebra* **186**(2), 436–446 (1996)

180. Linckelmann, M.: Derived equivalence for cyclic blocks over a P -adic ring. *Math. Z.* **207**(2), 293–304 (1991)
181. Linckelmann, M.: A derived equivalence for blocks with dihedral defect groups. *J. Algebra* **164**(1), 244–255 (1994)
182. Linckelmann, M.: The source algebras of blocks with a Klein four defect group. *J. Algebra* **167**(3), 821–854 (1994)
183. Linckelmann, M.: Fusion category algebras. *J. Algebra* **277**(1), 222–235 (2004)
184. Linckelmann, M.: Introduction to fusion systems. In: *Group Representation Theory*, pp. 79–113. EPFL Press, Lausanne (2007). Revised version: <http://web.mat.bham.ac.uk/C.W.Parker/Fusion/fusion-intro.pdf>
185. Lux, K., Pahlings, H.: *Representations of Groups*. Cambridge Studies in Advanced Mathematics, vol. 124. Cambridge University Press, Cambridge (2010). A computational approach
186. Malle, G., Navarro, G.: Inequalities for some blocks of finite groups. *Arch. Math. (Basel)* **87**(5), 390–399 (2006)
187. Malle, G., Navarro, G.: Blocks with equal height zero degrees. *Trans. Am. Math. Soc.* **363**(12), 6647–6669 (2011)
188. Mann, A.: On p -groups whose maximal subgroups are isomorphic. *J. Aust. Math. Soc. Ser. A* **59**(2), 143–147 (1995)
189. Maplesoft, a division of Waterloo Maple Inc.: Maple 16 (2012). <http://www.maplesoft.com/products/Maple/>
190. Mazurov, V.D.: Finite groups with metacyclic Sylow 2-subgroups. *Sibirsk. Mat. Ž.* **8**, 966–982 (1967)
191. Michler, G.O.: On blocks with multiplicity one. In: *Representations of Algebras* (Puebla, 1980). *Lecture Notes in Mathematics*, vol. 903, pp. 242–256. Springer, Berlin (1981)
192. Moretó, A., Navarro, G.: Heights of characters in blocks of p -solvable groups. *Bull. Lond. Math. Soc.* **37**(3), 373–380 (2005)
193. Murai, M.: On subsections of blocks and Brauer pairs. *Osaka J. Math.* **37**(3), 719–733 (2000)
194. Naehrig, M.: *Die Brauer-Bäume des Monsters M in Charakteristik 29*. Diplomarbeit, Aachen (2002)
195. Nagao, H.: On a conjecture of Brauer for p -solvable groups. *J. Math. Osaka City Univ.* **13**, 35–38 (1962)
196. Nagao, H., Tsushima, Y.: *Representations of finite groups*. Academic, Boston (1989). Translated from the Japanese
197. Naik, V.: Groups of order 32 (2013). http://groupprops.subwiki.org/wiki/Groups_of_order_32
198. Narasaki, R., Uno, K.: Isometries and extra special Sylow groups of order p^3 . *J. Algebra* **322**(6), 2027–2068 (2009)
199. Navarro, G.: The McKay conjecture and Galois automorphisms. *Ann. Math. (2)* **160**(3), 1129–1140 (2004)
200. Navarro, G., Späth, B.: On Brauer’s height zero conjecture. *J. Eur. Math. Soc.* **16**, 695–747 (2014)
201. Navarro, G., Tiep, P.H.: Brauer’s height zero conjecture for the 2-blocks of maximal defect. *J. Reine Angew. Math.* **669**, 225–247 (2012)
202. Navarro, G., Tiep, P.H.: Abelian Sylow subgroups in a finite group. *J. Algebra* **398**, 519–526 (2014)
203. Nebe, G., Sloane, N.: A catalogue of lattices (2014). <http://www.math.rwth-aachen.de/~Gabriele.Nebe/LATTICES/>
204. Neukirch, J.: *Algebraische Zahlentheorie*. Springer, Berlin (1992)
205. Ninomiya, Y.: Finite p -groups with cyclic subgroups of index p^2 . *Math. J. Okayama Univ.* **36**, 1–21 (1994)
206. Ninomiya, Y., Wada, T.: Cartan matrices for blocks of finite p -solvable groups with two simple modules. *J. Algebra* **143**(2), 315–333 (1991)
207. Nipp, G.L.: *Quaternary Quadratic Forms*. Springer, New York (1991). Computer generated tables, With a 3.5" IBM PC floppy disk

208. Noeske, F.: Adgc for sporadic groups (2014). <http://www.math.rwth-aachen.de/~Felix.Noeske/tabular.pdf>
209. O'Brien, E.A.: Hall-senior number vs small group id (2014). <http://permalink.gmane.org/gmane.comp.mathematics.gap.user/2426>
210. Okuyama, T., Wajima, M.: Character correspondence and p -blocks of p -solvable groups. *Osaka J. Math.* **17**(3), 801–806 (1980)
211. Oliver, B., Ventura, J.: Saturated fusion systems over 2-groups. *Trans. Am. Math. Soc.* **361**(12), 6661–6728 (2009)
212. Olsson, J.B.: On 2-blocks with quaternion and quasidihedral defect groups. *J. Algebra* **36**(2), 212–241 (1975)
213. Olsson, J.B.: McKay numbers and heights of characters. *Math. Scand.* **38**(1), 25–42 (1976)
214. Olsson, J.B.: On the subsections for certain 2-blocks. *J. Algebra* **46**(2), 497–510 (1977)
215. Olsson, J.B.: Lower defect groups. *Commun. Algebra* **8**(3), 261–288 (1980)
216. Olsson, J.B.: Inequalities for block-theoretic invariants. In: *Representations of Algebras* (Puebla, 1980). *Lecture Notes in Mathematics*, vol. 903, pp. 270–284. Springer, Berlin (1981)
217. Olsson, J.B.: On subpairs and modular representation theory. *J. Algebra* **76**(1), 261–279 (1982)
218. Olsson, J.B.: *Combinatorics and Representations of Finite Groups. Vorlesungen aus dem Fachbereich Mathematik der Universität GH Essen, Essen*, vol. 20 (1993)
219. Park, S.: The gluing problem for some block fusion systems. *J. Algebra* **323**(6), 1690–1697 (2010)
220. Passman, D.S.: p -Solvable doubly transitive permutation groups. *Pac. J. Math.* **26**, 555–577 (1968)
221. Puig, L.: Nilpotent blocks and their source algebras. *Invent. Math.* **93**(1), 77–116 (1988)
222. Puig, L.: Pointed groups and construction of modules. *J. Algebra* **116**(1), 7–129 (1988)
223. Puig, L.: The hyperfocal subalgebra of a block. *Invent. Math.* **141**(2), 365–397 (2000)
224. Puig, L.: *Frobenius Categories Versus Brauer Blocks. Progress in Mathematics*, vol. 274. Birkhäuser Verlag, Basel (2009). The Grothendieck group of the Frobenius category of a Brauer block
225. Puig, L.: Nilpotent extensions of blocks. *Math. Z.* **269**(1–2), 115–136 (2011)
226. Puig, L., Usami, Y.: Perfect isometries for blocks with abelian defect groups and Klein four inertial quotients. *J. Algebra* **160**(1), 192–225 (1993)
227. Puig, L., Usami, Y.: Perfect isometries for blocks with abelian defect groups and cyclic inertial quotients of order 4. *J. Algebra* **172**(1), 205–213 (1995)
228. Rickard, J.: Derived categories and stable equivalence. *J. Pure Appl. Algebra* **61**(3), 303–317 (1989)
229. Robinson, G.R.: On the number of characters in a block and the Brauer-Feit matrix (unpublished)
230. Robinson, G.R.: The number of blocks with a given defect group. *J. Algebra* **84**(2), 493–502 (1983)
231. Robinson, G.R.: On the number of characters in a block. *J. Algebra* **138**(2), 515–521 (1991)
232. Robinson, G.R.: On Brauer's $k(B)$ problem. *J. Algebra* **147**(2), 450–455 (1992)
233. Robinson, G.R.: Local structure, vertices and Alperin's conjecture. *Proc. Lond. Math. Soc.* (3) **72**(2), 312–330 (1996)
234. Robinson, G.R.: Dade's projective conjecture for p -solvable groups. *J. Algebra* **229**(1), 234–248 (2000)
235. Robinson, G.R.: Weight conjectures for ordinary characters. *J. Algebra* **276**(2), 761–775 (2004)
236. Robinson, G.R.: Amalgams, blocks, weights, fusion systems and finite simple groups. *J. Algebra* **314**(2), 912–923 (2007)
237. Robinson, G.R.: Large character heights, $Qd(p)$, and the ordinary weight conjecture. *J. Algebra* **319**(2), 657–679 (2008)
238. Robinson, G.R.: On the focal defect group of a block, characters of height zero, and lower defect group multiplicities. *J. Algebra* **320**(6), 2624–2628 (2008)

239. Roitman, M.: On Zsigmondy primes. *Proc. Am. Math. Soc.* **125**(7), 1913–1919 (1997)
240. Rouquier, R.: The derived category of blocks with cyclic defect groups. In: *Derived Equivalences for Group Rings. Lecture Notes in Mathematics*, vol. 1685, pp. 199–220. Springer, Berlin (1998)
241. Ruiz, A., Viruel, A.: The classification of p -local finite groups over the extraspecial group of order p^3 and exponent p . *Math. Z.* **248**(1), 45–65 (2004)
242. Rédei, L.: Das “schiefe Produkt” in der Gruppentheorie. *Comment. Math. Helv.* **20**, 225–264 (1947)
243. Sambale, B.: 2-Blocks with minimal nonabelian defect groups. *J. Algebra* **337**, 261–284 (2011)
244. Sambale, B.: 2-blöcke mit metazyklischen und minimal nichtabelschen defektgruppen. Dissertation, Südwestdeutscher Verlag für Hochschulschriften, Saarbrücken (2011)
245. Sambale, B.: Cartan matrices and Brauer’s $k(B)$ -conjecture. *J. Algebra* **331**, 416–427 (2011)
246. Sambale, B.: Cartan matrices and Brauer’s $k(B)$ -conjecture II. *J. Algebra* **337**, 345–362 (2011)
247. Sambale, B.: Blocks with defect group $D_{2^n} \times C_{2^m}$. *J. Pure Appl. Algebra* **216**, 119–125 (2012)
248. Sambale, B.: Fusion systems on metacyclic 2-groups. *Osaka J. Math.* **49**, 325–329 (2012)
249. Sambale, B.: Blocks with central product defect group $D_{2^n} * C_{2^m}$. *Proc. Am. Math. Soc.* **141**(12), 4057–4069 (2013)
250. Sambale, B.: Blocks with defect group $Q_{2^n} \times C_{2^m}$ and $SD_{2^n} \times C_{2^m}$. *Algebr. Represent. Theory* **16**(6), 1717–1732 (2013)
251. Sambale, B.: Brauer’s Height Zero Conjecture for metacyclic defect groups. *Pac. J. Math.* **262**(2), 481–507 (2013)
252. Sambale, B.: Further evidence for conjectures in block theory. *Algebra Number Theory* **7**(9), 2241–2273 (2013)
253. Sambale, B.: On the Brauer-Feit bound for abelian defect groups. *Math. Z.* **276**, 785–797 (2014)
254. Sambale, B.: The Alperin-McKay Conjecture for metacyclic, minimal non-abelian defect groups. *Proc. Am. Math. Soc.* (2014, to appear). [arXiv:1403.5153v1](https://arxiv.org/abs/1403.5153v1)
255. Sambale, B.: Cartan matrices and Brauer’s $k(B)$ -Conjecture III. *Manuscripta Math.* (2014, to appear)
256. Sambale, B.: Cartan matrices of blocks of finite groups (2014). <http://www.minet.uni-jena.de/algebra/personen/sambale/matrices.pdf>
257. Sambale, B.: Fusion systems on bicyclic 2-groups. *Proc. Edinb. Math. Soc.* (to appear)
258. Sawabe, M.: A note on finite simple groups with abelian Sylow p -subgroups. *Tokyo J. Math.* **30**(2), 293–304 (2007)
259. Sawabe, M., Watanabe, A.: On the principal blocks of finite groups with abelian Sylow p -subgroups. *J. Algebra* **237**(2), 719–734 (2001)
260. Schmid, P.: The Solution of the $k(GV)$ Problem. ICP Advanced Texts in Mathematics, vol. 4. Imperial College Press, London (2007)
261. Schulz, N.: Über p -blöcke endlicher p -auflösbarer Gruppen. Dissertation, Universität Dortmund (1980)
262. Scopes, J.: Cartan matrices and Morita equivalence for blocks of the symmetric groups. *J. Algebra* **142**(2), 441–455 (1991)
263. Späth, B.: A reduction theorem for the Alperin-McKay conjecture. *J. Reine Angew. Math.* **680**, 153–189 (2013)
264. Späth, B.: A reduction theorem for the blockwise Alperin weight conjecture. *J. Group Theory* **16**(2), 159–220 (2013)
265. Stancu, R.: Control of fusion in fusion systems. *J. Algebra Appl.* **5**(6), 817–837 (2006)
266. The GAP Group: GAP – Groups, Algorithms, and Programming, Version 4.6.5 (2013). <http://www.gap-system.org>
267. Thomas, R.M.: On 2-groups of small rank admitting an automorphism of order 3. *J. Algebra* **125**(1), 27–35 (1989)
268. Uno, K.: Dade’s conjecture for tame blocks. *Osaka J. Math.* **31**(4), 747–772 (1994)

269. Uno, K.: Conjectures on character degrees for the simple Thompson group. *Osaka J. Math.* **41**(1), 11–36 (2004)
270. Usami, Y.: On p -blocks with abelian defect groups and inertial index 2 or 3. I. *J. Algebra* **119**(1), 123–146 (1988)
271. Usami, Y.: Perfect isometries for blocks with abelian defect groups and dihedral inertial quotients of order 6. *J. Algebra* **172**(1), 113–125 (1995)
272. Usami, Y.: Perfect isometries and isotypies for blocks with abelian defect groups and the inertial quotients isomorphic to $\mathbf{Z}_3 \times \mathbf{Z}_3$. *J. Algebra* **182**(1), 140–164 (1996)
273. Usami, Y.: Perfect isometries and isotypies for blocks with abelian defect groups and the inertial quotients isomorphic to $\mathbf{Z}_4 \times \mathbf{Z}_2$. *J. Algebra* **181**(3), 727–759 (1996)
274. Usami, Y.: Perfect isometries for principal blocks with abelian defect groups and elementary abelian 2-inertial quotients. *J. Algebra* **196**(2), 646–681 (1997)
275. van der Waall, R.W.: On p -nilpotent forcing groups. *Indag. Math. (N.S.)* **2**(3), 367–384 (1991)
276. van der Waerden, B.L., Gross, H.: Studien zur Theorie der quadratischen Formen. Lehrbücher und Monographien aus dem Gebiete der exakten Wissenschaften, Mathematische Reihe, Band 34. Birkhäuser Verlag, Basel (1968)
277. Waldmüller, R.: Untersuchungen zu donovans vermutung für klassische gruppen. Dissertation, Aachen (2005)
278. Wang, B.: Modular representations of direct products. *MM Res. Preprints* **22**, 256–263 (2003)
279. Watanabe, A.: p -Blocks and p -regular classes in a finite group. *Kumamoto J. Sci. (Math.)* **15**(1), 33–38 (1982)
280. Watanabe, A.: Notes on p -blocks of characters of finite groups. *J. Algebra* **136**(1), 109–116 (1991)
281. Watanabe, A.: On perfect isometries for blocks with abelian defect groups and cyclic hyperfocal subgroups. *Kumamoto J. Math.* **18**, 85–92 (2005)
282. Watanabe, A.: Appendix on blocks with elementary abelian defect group of order 9. In: *Representation Theory of Finite Groups and Algebras, and Related Topics* (Kyoto, 2008), pp. 9–17. Kyoto University Research Institute for Mathematical Sciences, Kyoto (2010)
283. Watanabe, A.: The number of irreducible brauer characters in a p -block of a finite group with cyclic hyperfocal subgroup. *J. Algebra* **416**, 167–183 (2014)
284. Webb, P.: An introduction to the representations and cohomology of categories. In: *Group Representation Theory*, pp. 149–173. EPFL Press, Lausanne (2007)
285. Weir, A.J.: Sylow p -subgroups of the classical groups over finite fields with characteristic prime to p . *Proc. Am. Math. Soc.* **6**, 529–533 (1955)
286. Wikipedia: List of transitive finite linear groups (2014). http://en.wikipedia.org/wiki/List_of_transitive_finite_linear_groups
287. Yang, S.: On Olsson’s conjecture for blocks with metacyclic defect groups of odd order. *Arch. Math. (Basel)* **96**, 401–408 (2011)
288. Yang, S.: 3-Blocks with Abelian defect groups isomorphic to $\mathbf{Z}_{3^m} \times \mathbf{Z}_{3^n}$. *Acta Math. Sin. (Engl. Ser.)* **29**(12), 2245–2250 (2013)
289. Yang, S., Gao, S.: On the control of fusion in the local category for the p -block with a minimal nonabelian defect group. *Sci. China Math.* **54**, 325–340 (2011)
290. Yang, Y.: Regular orbits of nilpotent subgroups of solvable linear groups. *J. Algebra* **325**, 56–69 (2011)

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