

References

Each item is accompanied by a list of the pages on which it is cited, with the exception of our companion volume on rings and modules, [BK: IRM].

- [Adams 1969] J. F. Adams, *Lectures on Lie Groups* (Benjamin, New York, 1969). [173]
- [Adams 1975] J. F. Adams, *Localization and Completion* (Chicago Univ. Press, Chicago, 1975). [284]
- [Alexandroff 1926] P. Alexandroff, Über kombinatorische Eigenschaften allgemeiner Kurven, *Math. Ann.* **96** (1926), 512–554. [222]
- [Alexandroff 1929] P. Alexandroff, Untersuchungen über Gestalt und Lage abgeschlossener Mengen beliebiger Dimension, *Annals of Math.* **3** (1929), 101–187. [222]
- [Atiyah & Macdonald 1969] M. F. Atiyah & I. G. Macdonald, *Introduction to Commutative Algebra* (Addison-Wesley, Reading, Mass., 1969). [308, 309]
- [Bak 1987] A. Bak, Editorial, *K-Theory* **1** (1987), 1–4. [124]
- [Bass 1963] H. Bass, Big projectives are free, *Illinois J. Math.* **7** (1963), 24–31. [317]
- [Bass 1968] H. Bass, *Algebraic K-Theory* (Benjamin, New York, 1968). [192, 211, 340]
- [Berrick 1982] A. J. Berrick, *An Approach to Algebraic K-Theory*, Research Notes in Mathematics 56 (Pitman, London, 1982). [162]
- [Berrick 1999] A. J. Berrick, The plus-construction as a localization, *Algebraic K-theory and its Applications: Proc. ICTP 1997* (World Scientific, Singapore, 1999) 313–336. [284]
- [Berrick & Keating 1997] A. J. Berrick & M. E. Keating, Rectangular invertible matrices, *Amer. Math. Monthly* **104** (1997), 297–302. [221]
- [BK: IRM] A. J. Berrick & M. E. Keating, *An Introduction to Rings and Modules* (Cambridge University Press, Cambridge, 2000).
- [Blyton 1950] E. Blyton, *Five Go To Smuggler's Top* (Hodder & Stoughton, London, 1950). [113]
- [Borel & Serre 1958] A. Borel & J. P. Serre, Le Théorème de Riemann-Roch (d'après Grothendieck), *Bull. Soc. Math. de France* **86** (1958), 97–136. [123]
- [Bourbaki 1948] N. Bourbaki, *Algèbre Multilinéaire* (Hermann, Paris, 1948). [138]
- [Bourbaki 1994] N. Bourbaki, *Elements of the History of Mathematics* (Springer, Berlin, 1994). [xvii]
- [Brandt 1926] H. Brandt, Über einer Verallgemeinerung des Gruppenbegriffes, *Math. Ann.* **96** (1926), 360–366. [220]
- [Buchsbaum 1955] D. Buchsbaum, Exact categories and duality, *Trans. Amer. Math. Soc.* **80** (1955), 1–34. [83]

- [Buchsbaum 1959] D. Buchsbaum, A note on homology in categories, *Annals of Math.* **69** (1959), 66–74. [119]
- [Buchsbaum 1960] D. Buchsbaum, Satellites and universal functors, *Annals of Math.* **71** (1960), 199–209. [119]
- [Cameron 1999] P. J. Cameron, *Sets, Logic and Categories*, Springer Undergraduate Mathematics Series (Springer, London, 1999). [11]
- [Cartan & Eilenberg 1956] H. Cartan & S. Eilenberg, *Homological Algebra* (Oxford University Press, London, 1956). [154, 164, 180]
- [Casacuberta 1994] C. Casacuberta, Recent advances in unstable localization, *CRM Proceedings & Lecture Notes* 6 (Amer. Math. Soc., Providence, R. I., 1994). [284]
- [Čech 1932] E. Čech, Théorie général de l'homologie dans une espace quelconque, *Fund. Math.* **19** (1932), 149–183. [222]
- [Chevalley 1936] C. Chevalley, Généralisation de la théorie du corps des classes pour les extensions infinies, *Journ. de Math.* (9) **XV** (1936), 359–371. [305]
- [Chevalley 1940] C. Chevalley, La théorie du corps des classes, *Annals of Math.* **41** (1940), 394–418. [305]
- [Cohn 1979] P. M. Cohn, *Algebra, Volume 2* (John Wiley & Sons, Chichester, 1979). [xvi, 8, 228, 276]
- [Cohn 1982] P. M. Cohn, *Algebra, Volume 1, 2nd edition* (John Wiley & Sons, Chichester, 1982). [xvi, 30, 51]
- [Cohn 1985] P. M. Cohn, *Free Rings and their Relations, 2nd edition*, London Math. Soc. Monograph 19, (Academic Press, London, 1985). [xvi, 275, 284]
- [Cohn 1991] P. M. Cohn, *Algebraic Numbers and Algebraic Functions* (Chapman & Hall, London, 1991). [293]
- [Curtis & Reiner 1966] C. W. Curtis & I. Reiner, *Representation Theory of Finite Groups and Associative Algebras* (John Wiley & Sons, New York, 1966). [179, 314]
- [Curtis & Reiner 1981] C. W. Curtis & I. Reiner, *Methods of Representation Theory with Applications to Finite Groups and Orders, Volume I* (John Wiley & Sons, New York, 1981). [179, 183, 274]
- [Curtis & Reiner 1987] C. W. Curtis & I. Reiner, *Methods of Representation Theory with Applications to Finite Groups and Orders, Volume II* (John Wiley & Sons, New York, 1987). [179, 212, 214, 217, 342]
- [Dieudonné 1989] J. Dieudonné, *A History of Algebraic and Differential Topology 1900–1960* (Birkhäuser, Boston, 1989). [xvii, 62, 222]
- [Eilenberg & Mac Lane 1942] S. Eilenberg & S. Mac Lane, Natural isomorphisms in group theory, *Proc. Nat. Acad. Sci. USA* **28** (1942), 535–539. [62, 69]
- [Eilenberg & Mac Lane 1945] S. Eilenberg & S. Mac Lane, General theory of natural equivalences, *Trans. Amer. Math. Soc.* **58** (1945), 231–294. [63, 83]
- [Eisenbud 1995] D. Eisenbud, *Commutative Algebra*, Graduate Texts in Mathematics 150 (Springer-Verlag, New York, 1995). [67, 232, 339]
- [Emmanouil 1996] I. Emmanouil, Mittag-Leffler condition and the vanishing of \lim^1 , *Topology* **35** (1996), 267–271. [251]
- [Faith 1973] C. Faith, *Algebra: Rings, Modules and Categories I*, Die Grundlehren der math. Wissenschaft 190 (Springer-Verlag, Berlin, 1973). [276]
- [Fossum 1973] R. M. Fossum, *The Divisor Class Group of a Krull Domain*, Ergebnisse der Mathematik Band 74 (Springer-Verlag, Berlin, 1973). [293]
- [Freyd 1964] J. P. Freyd, *Abelian Categories* (Harper & Row, New York, 1964). [100]

- [Fröhlich 1983] A. Fröhlich, *Galois Module Structure of Algebraic Integers*, Ergebnisse der Mathematik und ihrer Grenzgebiete, 3. Folge, Band 1 (Springer-Verlag, Berlin, 1983). [340]
- [Fröhlich & Taylor 1991] A. Fröhlich & M. J. Taylor, *Algebraic Number Theory*, Cambridge Studies in Advanced Mathematics 27 (Cambridge University Press, Cambridge 1991). [xvi]
- [Fulton & Lang 1985] W. Fulton & S. Lang, *Riemann–Roch Algebra*, Grundlehren der math. Wissenschaft 277 (Springer-Verlag, New York, 1985). [164]
- [Gabriel 1962] P. Gabriel, Des catégories abéliennes, *Bull. Soc. Math. France* **90** (1962), 323–448. [91, 262, 276, 278]
- [Goodearl 1979] K. R. Goodearl, *Von Neumann Regular Rings* (Pitman, London, 1979). [243]
- [Grell 1927] H. Grell, Beziehungen zwischen den Idealen verschiedener Ringe, *Math. Ann.* **XCVII** (1927), 490–523. [254]
- [Golan 1975] J. S. Golan, *Localization of Non-Commutative Rings* (Marcel Dekker, New York, 1975). [284]
- [Grothendieck 1957] A. Grothendieck, Sur quelques points d'algèbre homologique, *Tôhoku Math. J.* **9** (1957), 119–221. [83, 278, 285]
- [Hartshorne 1997] R. Hartshorne, *Algebraic Geometry*, Graduate Texts in Mathematics 52 (Springer-Verlag, New York, 1997). [164]
- [Hasse 1923] H. Hasse, Über die Äquivalenz quadratischer Formen in Körper der rationalen Zahlen, *J. Crelle*, **CLII** (1923), 205–224. [339]
- [Heller 1965] A. Heller, Some exact sequences in algebraic K -theory, *Topology* **3** (1965), 389–408. [119, 278]
- [Hensel 1908] K. Hensel, *Theorie der algebraischen Zahlen* (Teubner, Leipzig, 1908). [295]
- [Herrlich & Strecker 1979] H. Herrlich & G. E. Strecker, *Category Theory*, Sigma Series in Pure Math. No. 1 (Heldermann, Berlin, 1979). [10, 11, 39, 55, 100]
- [Higgins 1974] P. J. Higgins, *An Introduction to Topological Groups*, London Math. Soc. Lecture Notes 15 (Cambridge Univ. Press, Cambridge, 1974). [88]
- [Hovey 1999] M. Hovey, *Model Categories*, Mathematical Surveys and Monographs 63 (American Math. Soc., Providence, R.I., 1999). [46]
- [Hurewicz 1941] W. Hurewicz, On duality theorems, *Bull. Amer. Math. Soc.* **47** (1941), 562–563. [91]
- [Jacobson 1980] N. Jacobson, *Basic Algebra II* (W. H. Freeman, New York, 1980). [xvii]
- [Jacobson 1985] N. Jacobson, *Basic Algebra I, 2nd edition* (W. H. Freeman, New York 1985). [xvi]
- [Jardine 1996] J. F. Jardine, Homotopy and homotopical algebra, *Handbook of Algebra, Vol. I* (Elsevier, Amsterdam, 1996). [46]
- [Kan 1958] D. Kan, Adjoint functors, *Trans. Amer. Math. Soc.* **87** (1958), 294–329. [63]
- [Kelley & Pitcher 1947] J. L. Kelley & E. Pitcher, Exact homomorphism sequences in homology theory, *Annals of Math.* **48** (1947), 682–709. [91]
- [Krull 1938] W. Krull, Dimensiontheorie in Stellenringe, *J. reine angew. Math.* **169** (1938), 204–226. [254, 300]
- [Kuhn 1994] N. J. Kuhn, Generic representations of the finite general linear group and the Steenrod algebra: I, *Amer. J. Math.* **116** (1994), 327–360. [207]
- [Kürschák 1913] J. Kürschák, Über Limesbildung und allgemeine Körpertheorie, *J. Crelle* **CXLII** (1913), 211–253. [295]

- [Lazard 1964] D. Lazard, Sur les modules plats, *Comptes Rendues Acad. Sci. Paris* **258** (1964), 6313–6316. [239]
- [Levy 1979] A. Levy, *Basic Set Theory*, Perspectives in Mathematical Logic (Springer, Berlin, 1979). [10]
- [Loday 1992] J.-L. Loday, *Cyclic Homology*, Grundlehren der math. Wissenschaft 301 (Springer, Berlin, 1992). [16]
- [Mac Lane 1971] S. Mac Lane, *Categories for the Working Mathematician*, Graduate Texts in Mathematics 5 (Springer, Berlin, 1971). [11, 55, 101, 138]
- [Mac Lane 1975] S. Mac Lane, *Homology*, (Springer-Verlag, Berlin, 1975). [xvii, 80, 83, 101, 119]
- [Mal'cev 1937] A. I. Mal'cev, On the immersion of an algebraic ring in a field, *Math. Ann.* **117** (1937), 686–691. [261]
- [Marcus 1977] D. A. Marcus, *Number Fields*, Universitext (Springer-Verlag, Berlin, 1977). [xvii]
- [May 1967] J. P. May, *Simplicial Objects in Algebraic Topology*, D. van Nostrand (Princeton N. J., 1967). [45, 46]
- [McConnell & Robson 1987] J. C. McConnell & J. C. Robson, *Noncommutative Noetherian Rings* (Wiley-Interscience, John Wiley, Chichester, 1987). [xvi, 272, 276, 284]
- [McGibbon & Steiner 1995] C. A. McGibbon & R. Steiner, Some questions about the first derived functor of the inverse limit, *J. Pure Applied Algebra* **103** (1995), 325–340. [251]
- [Milnor 1971] J. Milnor, *Introduction to Algebraic K-theory*, Annals of Math. Studies 73 (Princeton University Press, Princeton, 1971). [342]
- [Mitchell 1965] B. Mitchell, *Theory of Categories* (Academic Press, New York, 1965). [39, 45, 113, 113, 119]
- [Morita 1958] K. Morita, Duality for modules and its application to the theory of rings with minimum condition, *Science Reports Tokyo Kyoiku Daigaku* **6**, Series A (1958), 83–142. [184]
- [Noether & Schmeidler 1920] E. Noether & W. Schmeidler, Moduln in nichtcommutativen Bereichen, insbesondere aus Differential und Differenzenausdrücken, *Math. Zeitschrift* **8** (1920), 1–35. [2]
- [Northcott 1968] D. G. Northcott, *Lessons on Rings, Modules and Multiplicities* (Cambridge University Press, Cambridge, 1968). [308]
- [Ore 1933] O. Ore, Theory of noncommutative polynomials, *Annals of Math.* **34** (1933), 480–508. [254]
- [Ostrowski 1917] A. Ostrowski, Über einige Lösungen der Funktionalgleichung $\phi(x)\phi(y) = \phi(xy)$, *Acta Math.* **XLI** (1917), 271–284. [295]
- [Pareigis 1970] B. Pareigis, *Categories and Functors* (Academic Press, London, 1970). [113, 117, 207]
- [Pontrjagin 1931] L. Pontrjagin, Über den algebraischen Inhalt topologische Dualitätssätze, *Math. Ann.* **105** (1931), 165–205. [222]
- [Popescu 1973] N. Popescu, *Abelian Categories with Applications to Rings and Modules*, London Math. Soc. Monograph 3, (Academic Press, London, 1973). [276, 284]
- [Quillen 1973] D. Quillen, Higher algebraic K-theory I, in *Algebraic K-theory I*, Lecture Notes in Mathematics 341 (Springer-Verlag, Berlin, 1973), 85–147. [24, 119, 124, 125, 128, 164]
- [Quillen] D. Quillen, *Module theory for nonunital rings, in preparation*. [184, 207, 239, 276, 287]

- [Reiner 1975] I. Reiner, *Maximal Orders*, London Math. Soc. Monograph 5 (Academic Press, London, 1975). [338, 340]
- [Rotman 1979] J. J. Rotman, *An Introduction to Homological Algebra* (Academic Press, Boston, Mass., 1979). [80, 83, 154, 342]
- [Rosenberg 1996] J. Rosenberg, *Algebraic K-theory and Its Applications*, Graduate Texts in Mathematics 147 (Springer-Verlag, Berlin, 1996). [124]
- [Rowen 1988] L. H. Rowen, *Ring Theory, Volume I* (Academic Press, Boston, Mass., 1988). [xvi, 67, 207, 255, 276]
- [Samuel 1948] P. Samuel, On universal mappings and free topological groups, *Bull. Amer. Math. Soc.* **54** (1948), 591–598. [63]
- [Schofield 1985] A. H. Schofield, Artin's problem for skew field extensions, *Math. Proc. Camb. Phil. Soc.* **97** (1985), 1–6. [173]
- [Schubert 1972] H. Schubert, *Categories* (Springer, Berlin, 1972). [11]
- [Schwarz 1998] A. Schwarz, Morita equivalence and duality, *Nuclear Physics B* **534** (1998), 720–738. [207]
- [Scott 1964] W. R. Scott, *Group Theory* (Prentice-Hall, Englewood Cliffs, 1964). [58, 67]
- [Segal 1968] G. Segal, Classifying spaces and spectral sequences, *Math. Publ. IHES* **34** (1968), 105–112. [25]
- [Serre 1953] J.-P. Serre, Classes de groupes abéliens et groupes d'homotopie, *Annals of Math.* **58** (1953), 258–294. [277, 278]
- [Serre 1956] J.-P. Serre, Géométrie algébrique et géométrie analytique, *Ann. Inst. Fourier* **VI** (1956), 1–42. [238, 257, 303]
- [Serre 1977] J.-P. Serre, *Linear Representations of Finite Groups*, Graduate Texts in Mathematics 42 (Springer-Verlag, Berlin, 1977). [179]
- [Snaith 1994] V. P. Snaith, *Galois Module Structure*, Fields Institute Monographs, 2 (American Mathematical Society, Providence, RI, 1994.) [340]
- [Spanier 1966] E. H. Spanier, *Algebraic Topology* (McGraw-Hill, New York, 1966). [46]
- [Steenrod 1936] N. E. Steenrod, Universal homology groups, *Amer. J. Math.* **58** (1936), 661–701. [222]
- [Steenrod 1940] N. E. Steenrod, Regular cycles of compact metric spaces, *Annals of Math.* **41** (1940), 833–851. [250]
- [Stenström 1975] B. Stenström, *Rings of Quotients*, Grundlehren der math. Wissenschaft 217 (Springer-Verlag, Berlin, 1975). [284, 308]
- [Swan 1960] R. G. Swan, Induced representations and projective modules, *Annals of Math.* **71** (1960), 552–578. [340]
- [Swan 1968] R. G. Swan, *Algebraic K-Theory*, Lecture Notes in Math. 76 (Springer-Verlag, Berlin, 1968). [276]
- [van Dalen, Doets & de Swart 1979] D. van Dalen, H. C. Doets & H. de Swart, *Sets: Naïve, Axiomatic and Applied* (Pergamon Press, Oxford, 1979). [10]
- [Waldhausen 1985] F. Waldhausen, Algebraic K-theory of spaces, in *Algebraic and Geometric Topology*, Springer Lecture Notes in Mathematics 1126 (Springer-Verlag, Berlin, 1985), 318–419. [130]
- [Weibel 1995] C. A. Weibel, *An Introduction to Homological Algebra*, Cambridge Studies in Advanced Mathematics 38 (Cambridge University Press, Cambridge, 1995). [80]
- [Weibel] C. A. Weibel, History of homological algebra, in *The History of Topology*, ed. I. M. James (Elsevier, to appear). [xvii]
- [Willard 1970] S. Willard, *General Topology* (Addison-Wesley, Reading, Mass., 1970). [87]

- [Whitney 1938] H. Whitney, Tensor products of abelian groups, *Duke Math. J.* **4** (1938), 495–528. [138]