# References

Arbeiter, M. and Patzschke, M. (1996) Random self-similar multifractals. *Math. Nachr*, **181**, 5–42.

Bandt, C., (1989) Self-similar sets 3. Constructions with sofic systems. *Monatshefte für Mathematik* **108**, 89–102.

Bandt, C., Flachsmeyer, J. and Haase, H. (eds.) (1992) *Topology, Measures and Fractals*. Akademie Verlag.

Bandt, C., Graf, S. and Zähle, M. (1995) *Fractal Geometry and Stochastics*. Birkhäuser.

Barlow, M.T. and Bass, R.F. (1992) Transition densities for Brownian motion on the Sierpinski carpet. *Probab. Th. Rel. Fields* **91**, 307–330.

Barlow, M.T. and Perkins, E.A. (1988) Brownian motion on the Sierpinski gasket. *Probab. Th. Rel. Fields* **79**, 543–624.

Barnsley, M.F. (1988) *Fractals Everywhere*. Academic Press.

Barnsley, M.F. and Demko, S.G. (1985) Iterated function systems and the global construction of fractals. *Proc. Roy. Soc.* **A399**, 243–275.

Barnsley, M.F. and Hurd, L.P. (1993) *Fractal Image Compression*. A.K. Peters.

Bedford, T. (1986) Dimension and dynamics of fractal recurrent sets. *J. London Math. Soc.* (2) **33**, 89–100.

Bedford, T. (1991) Applications of dynamical systems to fractals - a study of cookie-cutter Cantor sets. In *Fractal Geometry and Analysis* (eds. J. Bélair and S. Dubuc), pp 1–44, Kluwer.

Bedford, T. and Fisher, A. (1992) Analogues of the Lebesgue density theorem for fractal sets of reals and integers. *Proc. London Math. Soc.* (3) **64**, 95–124.

Bedford, T., Keane, M. and Series, C. (1991) *Ergodic Theory - Symbolic Dynamics and Hyperbolic Spaces*. Oxford University Press.

Bedford, T. and Urbanski, M. (1990) The box and Hausdorff dimension of self-affine sets. *Ergodic Th. Dynam. Sys.* **10**, 627–644.

Bélair, J. and Dubuc, S. (eds.) (1991) *Fractal Geometry and Analysis*. Kluwer.

Bellman, R. (1960) *Introduction to Matrix Analysis*. McGraw-Hill.

Berg, van den M. (1994) Heat content and Brownian motion for some regions with a fractal boundary. *Probab. Th. Related Fields* **100**, 439–456.

Berg, van den M. and Srisatkunarajah, S. (1990) Heat flow and Brownian motion for a region in $\mathbf{R}^2$ with a polygonal boundary. *Probab. Th. Related Fields* **86**, 41–52.

Berry, M.V. (1979) Distribution of modes in fractal resonators. In *Structural Stability in Physics* (eds. W. Güttinger and H. Eikemeier), pp 51–53, Springer-Verlag.

Besicovitch, A.S. and Taylor, S.J. (1954) On the complementary intervals of linear closed sets of zero Lebesgue measure. *J. London Math. Soc.* **29**, 449–459.

Billingsley, P. (1965) *Ergodic Theory and Information*. John Wiley.

Birkhoff, G.D. (1931) Proof of the ergodic theorem. *Proc. Nat. Acad. Sci. U.S.A.* **17**, 656–660.

Bowen, R. (1975) Equilibrium States and the Ergodic Theory of Anosov Differmorphisms. *Lecture Notes in Mathematics* **470**, Springer-Verlag.

Brossard, J. and Carmona, R. (1986) Can one hear the dimension of a fractal? *Commun. Math. Phys.* **104**, 103–122.

Brown, G., Michon, G. and Peyrière, J. (1992) On the multifractal analysis of measures. *J. Stat. Phys.* **66**, 775–790.

Cawley, R. and Mauldin, R.D. (1992) Multifractal decomposition of Moran fractals. *Adv. Math.* **92**, 196–236.

Chen Hua and Sleeman, B.D. (1995) Fractal drums and the $n$-dimensional modified Weyl-Berry conjecture. *Commun. Math. Phys.* **168**, 581–607.

Cherbit, G. (ed) (1991) *Fractals: Non-integral dimensions and applications*. John Wiley.

Cooper, D. and Pignataro, T. (1988) On the shape of Cantor sets. *J. Differential Geom.* **28**, 203–221.

Cutler, C.D. (1986) The Hausdorff dimension distribution of finite measures in Euclidean space. *Can. J. Math.* **38**, 1459–1484.

Cutler, C.D. (1990) Connecting ergodicity and dimension in dynamical systems. *Ergodic Th. Dynam. Sys.* **10**, 451–462.

Cutler, C.D. (1992) Measure disintegrations with respect to $\sigma$-stable monotone indices and pointwise representation of packing dimension. *Supp. Ai. Rend. Cir. Math. Palermo* (II) **28**, 319–340.

Cutler, C.D. (1995) Strong and weak duality principles for fractal dimension in Euclidean space. *Math. Proc. Cambridge Philos. Soc.* **118**, 393–410.

Devaney, R.L. and Keen, L. (eds.) (1989) Chaos and Fractals - The Mathematics Behind the Computer Graphics. *Proc. Symp. Applied Math.* **39**, American Mathematical Society.

Doob, J.L. (1994) *Measure Theory*. Springer-Verlag.

Douady, A. and Oesterlé, D. (1980) Dimension de Hausdorff des attracteurs. *C.R. Acad. Sci. Paris, Sér* A**290**, 1135–1138.

Dunford, N. and Schwartz, J.T. (1958) *Linear Operators*, Pt I. Interscience.

Edgar, G.A. (1990) *Measure, Topology, and Fractal Geometry*. Springer-Verlag.

Edgar, G.A. (1993) *Classics on Fractals*. Addison-Wesley.

Edgar, G.A. and Mauldin, R.D. (1992) Multifractal decompositions of digraph recursive fractals. *Proc. London Math. Soc.* (3) **65**, 604–628.

Evertsz, C.J.G. and Mandelbrot, B.B. (1992) Multifractal measures. Appendix B in *Chaos and Fractals* (H.-O. Peitgen, H. Jürgens, and D. Saupe), Springer-Verlag.

Falconer, K.J. (1985) *The Geometry of Fractal Sets*. Cambridge University Press.

Falconer, K.J. (1988) The Hausdorff dimension of self-affine fractals. *Math. Proc. Cambridge Philos. Soc.* **103**, 339–350.

Falconer, K.J. (1989) Dimensions and measures of quasi self-similar sets. *Proc. Amer. Math. Soc.* **106**, 543–554.

Falconer, K.J. (1990) *Fractal Geometry — Mathematical Foundations and Applications*. John Wiley.

Falconer, K.J. (1992a) The dimension of self-affine fractals II, *Math. Proc. Cambridge Philos. Soc.* **111**, 169–179.

Falconer, K.J. (1992b) Wavelet transforms and order-two densities of fractals. *J. Statistical Physics* **67**, 781–793.

Falconer, K.J. (1994) Bounded distortion and dimension for non-conformal repellers. *Math. Proc. Cambridge Philos. Soc.* **115**, 315–334.

Falconer, K.J. (1995a) Sub-self-similar sets. *Trans. Amer. Math. Soc.* **347**, 3121–3129.

Falconer, K.J. (1995b) On the Minkowski measurability of fractals. *Proc. Amer. Math. Soc.* **123**, 1115–1124.

Falconer, K.J. and Marsh, D.T. (1992) On the Lipschitz equivalence of Cantor sets. *Mathematika* **39**, 222–233.

Falconer, K.J. and O'Neil, T.C. (1996) Vector-valued multifractal measures. *Proc. Royal Soc. London* A **452**, 1–26.

Falconer, K.J. and Springer, O.B. (1995) Order-two density and measures with non-integral dimension. *Mathematika* **42**, 1–14.

Falconer, K.J. and Xiao, Y.M. (1995) Average densities of the image and zero set of stable processes. *Stochastic Processes Appl.* **55**, 271–283.

Fan, A.H. (1994) On ergodicity and unidimensionality. *Kyushu J. Math.* **48**, 249–255.

Feder, J. (1988) *Fractals*. Plenum Press.

Federer, H. (1969) *Geometric Measure Theory*. Springer-Verlag.

Feller, W. (1966) *An Introduction to Probability Theory and its Applications*. Vol. 2, 2nd Edition, John Wiley.

Fisher, G. (1995) *Fractal Image Compression: Theory and Applications*. Springer-Verlag.

Fleckinger, J., Levitin, M. and Vassiliev, D. (1995) Heat equation on the triadic von Koch snowflake: asymptotic and numerical analysis. *Proc. London Math. Soc.* (3) **71**, 372–396.

Fleckinger-Pelle, J. and Vassilev, D. (1993) An example of two term asymptotics for the "counting function" of a fractal drum. *Trans. Amer. Math. Soc.* **337**, 99–116.

Fleischmann, M., Tildesley, D.J. and Ball, R.C. (eds.) (1990). *Fractals in the Natural Sciences*. Princeton University Press.

Frisch, U. and Parisi, G. (1985) Fully developed turbulence and intermittancy. In *Turbulence and Predictability of Geophysical Flows and Climate Dynamics* (eds M. Ghil, R. Benzi and G. Parissi), pp 84–88, North Holland.

Frostman, O. (1935) Potential d'équilibre et capacité des ensembles avec quelques applications à la théorie des fonctions. *Meddel. Lunds Univ. Mat. Sem.* **3**, 1–118.

Fukushima, M. and Shima, T. (1992) On a spectral analysis for the Sierpinski gasket. *Potential Analysis* **1**, 1–35.

Goldstein, S. (1987) Random walks and diffusions on fractals. In *Percolation theory and ergodic theory of infinite particle systems*, *IMA Math. Appl.* **8**, 121–128, Springer.

Grimmett, G.R. and Striziker, D.R. (1992) Probability and Random Processes. 2nd Edition, Clarendon Press.

Haase, H. (1992) A survey of the dimensions of measures. In *Topology, Measures and Fractals*, *Math. Research* **66**, 66–75, Academie Verlag.

Halsey, T.C., Jensen, M.H., Kadanoff, L.P., Procaccia, I. and Shraiman, B.J. (1986) Fractal measures and their singularities: the characterization of strange sets. *Phys. Rev.* **A33**, 1141–1151.

Hastings, H.M. (1993) *Fractals: A User's Guide for the Natural Sciences*. Oxford University Press.

Hausdorff, F. (1919) Dimension und äusseres Mass. *Math. Ann.* **79**, 157–179.

Hentschel, H. and Procaccia, I. (1983) The infinite number of generalized dimensions of fractals and strange attractors. *Physica* **8D**, 435–444.

Holschneider, M. (1995) *Wavelets—An Analysis Tool*. Clarendon Press.

Hu, X. and Taylor, S.J. (1994) Fractal properties of products and projections of measures in $\mathbf{R}^d$. *Math. Proc. Cambridge Philos. Soc.* **115**, 527–544.

Hueter, I. and Lalley, S.P. (1995) Falconer's formula for the Hausdorff dimension of a self-affine set in $\mathbf{R}^2$. *Ergodic Th. Dynam. Sys.* **15**, 77–97.

Hutchinson, J.E. (1981) Fractals and self-similarity. *Indiana Univ. Math. J.* **30**, 713–747.

Kahane, J.-P. (1985) *Some Random Series of Functions*. Cambridge University Press.

Kahane, J.-P. and Katznelson, Y. (1990) Décomposition des mesures selon la dimension. *Colloq. Math.* **58**, 269–279.

Kahane, J.-P. and Peyrière, J. (1976) Sur certaines martingales de Benoit Mandelbrot. *Adv. Math.* **22**, 131–145.

Katznelson, Y. and Weiss, B. (1982) A simple proof of some ergodic theorems. *Israel J. Math.* **42**, 291–296.

Kigami, J. (1989) A harmonic calculus on the Sierpinski spaces. *Japan J. Appl. Math.* **6**, 259–290.

Kigami, J. (1995) Laplacians on self-similar sets and their spectral distributions. In *Fractal Geometry and Stochastics, Progress in Probability* **37**, 221–238, Birkhauser.

Kigami, J. and Lapidus, M.L. (1993) Weyl's problem for the spectral distribution of Laplacians on p.c.f. self-similar fractals. *Commun. Math. Phys.* **158**, 93–125.

King, J. (1995) The singularity spectrum for general Sierpinski carpets. *Adv. Math.* **116**, 1–11.

Kingman, J.F.C. and Taylor, S.J. (1966) *Introduction to Measure and Probability*. Cambridge University Press.

Kusuoka, S. (1987) A diffusion process on a fractal. In *Probabilistic Methods in Mathematical Physics*, Proc. Taniguchi Symp., Katata 1985, pp 251–274, Kino Kuniya-North Holland.

Ladyzhenskaya, O. (1991) *Attractors for Semigroups and Evolution Equations*. Cambridge University Press.

Lalley, S.P. (1988) The packing and covering functions of some self-similar fractals. *Indiana Univ. Math. J.* **37**, 699–709.

Lalley, S.P. (1989) Renewal theorems in symbolic dynamics, with applications to geodesic flow, non-Euclidean tessellations and their fractal limits. *Acta Math.* **163**, 1–55.

Lalley, S.P. (1991) Probabilistic methods in certain counting problems of ergodic theory. In *Ergodic Theory, Symbolic Dynamics and Hyperbolic Spaces*, pp 223–258, Oxford University Press.

Lapidus, M.L. (1991) Fractal drum, inverse spectral problems for elliptic operators and a partial resolution of the Weyl-Berry conjecture. *Trans. Amer. Math. Soc.* **325**, 465–529.

Lapidus, M.L. (1993) Vibrations of fractal drums, the Riemann hypothesis, waves in fractal media and the Weyl-Berry conjecture. In *Ordinary and Partial Differential Equations IV*, Pitman Research Notes in Mathematics 289, pp 126–209, Longman Scientific.

## 250    References

Lapidus, M.L. and Maier, H. (1995) The Riemann hypothesis and inverse spectral problems for fractal strings. *J. London Math. Soc.* (2) **52**, 15–34.

Lapidus, M.L. and Pomerance, C. (1993) The Riemann zeta function and the one dimensional Weyl-Berry conjecture for fractal drums. *Proc. London Math. Soc.* (3) **66**, 41–49.

Leistritz, L. (1994) *Geometrische und analytische Eigenschaften singularer Strukturen in* $\mathbf{R}^d$. Ph.D. Dissertation, University of Jena.

Levitin, M. and Vassiliev, D. (1996) Spectral asymptotic, renewal theorem, and the Berry conjective for a class of fractals. *Proc. London Math. Soc.* (3) **72**, 188–214.

Lindvall, T. (1977) A probabilistic proof of Blackwell's renewal theorem. *Ann. Probab.* **5**, 482–485.

Lopes, A.O. (1989) The dimension spectrum of the maximal measure. *SIAM J. Math. Anal.* **20**, 1243–1254.

Mandelbrot, B.B. (1972) Renewal sets and random cutouts. *Z. Warsch. Verw. Geb.* **22**, 145–157.

Mandelbrot, B.B. (1974) Intermittent turbulence in self-similar cascades: divergence of high moments and dimension of the carrier. *J. Fluid Mech.* **62**, 331–358.

Mandelbrot, B.B. (1975) *Les Objects Fractals: Forme, Hasard et Dimension*. Flammarion.

Mandelbrot, B.B. (1982) *The Fractal Geometry of Nature*. W.H. Freeman.

Mandelbrot, B.B. (1991) Random multifractals: negative dimensions and the resulting limitations of the thermodynamic formalism. *Proc. Roy. Soc.* **A434**, 79–88.

Mandelbrot, B.B. and Riedi, R. (1995) Multifractal formalism for infinte multinomial measures. *Adv. Appl. Math.* **16**, 132–150.

Marstrand, J.M. (1954) Some fundamental geometrical properties of plane sets of fractional dimensions. *Proc. London Math. Soc.* (3) **4**, 257–302.

Marstrand, J.M. (1996) Order-two density and the strong law of large numbers. *Mathematika* **43**, 1–22.

Massopust, P.R. (1994) *Fractal Functions, Fractal Surfaces and Wavelets*. Academic Press.

Mattila, P. (1995a) *Geometry of Sets and Measures in Euclidean Spaces*. Cambridge University Press.

Mattila, P. (1995b) Cauchy singular integrals and rectifiability of measures in the plane. *Adv. Math.* **115**, 1-34.

Mattila, P. and Preiss, D. (1995) Rectifiable measures in $\mathbf{R}^n$ and existence of principal values for singular integrals. *J. London Math. Soc.* (2) **52**, 482–496.

Mauldin, R.D. and Williams, S.C. (1988) Hausdorff dimension in graph directed constructions. *Trans. Amer. Math. Soc.* **309**, 811–829.

McCluskay, H. and Manning, A. (1983) Hausdorff dimension for horseshoes. *Ergodic Th. Dynam. Sys.* **3**, 251–260.

McLaughlin, J. (1987) A note on the Hausdorff measures of quasi-self-similar sets. *Proc. Amer. Math. Soc.* **100**, 183–186.

Mehaute, A. (ed.) (1991) *Fractal Geometries: Theory and Applications*. Penton Press.

Moran, P.A.P. (1946) Additive functions of intervals and Hausdorff measure. *Proc. Cambridge Philos. Soc.* **42**, 15–23.

Olsen, L. (1994) *Random Geometrically Graph Directed Self-similar Multifractals*. Longman Scientific and Technical.

Olsen, L. (1995) A multifractal formalism. *Adv. Math.* **116**, 82–196.

Olsen, L. (1996) Multifractal dimensions of product measures. *Math. Proc. Cambridge Philos. Soc.* **120**, 709–734.

Parry, W. (1981) *Topics in Ergodic Theory*. Cambridge University Press.

Parry, W. and Pollicott, M. (1990) Zeta Functions and the Periodic Orbit Structure of Hyperbolic Dynamics. *Astérisque* **187–188**, Société Mathématique de France.

Patzschke, N. and Zähle, M. (1993) Fractional differentiation in the self-affine case III. The density of the Cantor set. *Proc. Amer. Math. Soc.* **117**, 132–144.

Peruggia, M. (1993) *Discrete Iterated Function Schemes*. A.K. Peters.

Petersen, K. (1983) *Ergodic Theory*. Cambridge University Press.

Peitgen, H.-O., Jürgens, H. and Saupe, D. (1992) *Chaos and Fractals: New Frontiers of Science*. Springer-Verlag.

Peitgen, H.-O. and Saupe, D. (eds.) (1988) *The Science of Fractal Images*. Springer-Verlag.

Pietronero, L. and Tosatti, E. (eds.) (1986) *Fractals in Physics*. North Holland.

Pollicott, M. (1992) *Lectures on Pesin theory and ergodic theory on manifolds*. Cambridge University Press.

Preiss, D. (1987) Geometry of measures in $\mathbf{R}^n$: distribution, rectifiability and densities. *Ann. of Math.* **125**, 537–643.

Rand, D. (1989) The singularity spectrum $f(\alpha)$ for cookie-cutters. *Ergodic Th. Dynam. Sys.* **9**, 527–541.

Riedi, R. (1995) An improved multifractal formalism and self-similar measures. *J. Math. Anal. Appl.* **189**, 492–490.

Rogers, C.A. (1970) *Hausdorff Measures*. Cambridge University Press.

Rogers, C.A. and Taylor, S.J. (1959) Additive set functions in Euclidean space. *Acta Math.* **101**, 273–302.

Rogers, C.A. and Taylor, S.J. (1962) Functions continuous and singular with respect to a Hausdorff measure. *Mathematika* **8**, 1–31.

Ruelle, D. (1978) *Thermodynamic Formalism: the Mathematical Structures of Classical Equilibrium Statistical Mechanics*. Addison-Wesley.

Ruelle, D. (1982) Repellers for real analytic maps. *Ergodic Th. Dynam. Sys.* **2**, 99–107.

Rudin, W. (1973) *Functional Analysis*. McGraw-Hill.

Salli, A. (1985) Upper density properties of Hausdorff measures on fractals. *Ann. Acad. Sci. Fenn. Ser. A.I. Math. Dissertationes* **55**.

Sinai, Y.G. (1972) Gibbs measures in ergodic theory. *Russian Math. Surveys* **27**, 21–70.

Sleeman, B.D. (1996) Some contributions to the Weyl-Berry conjecture for fractal domains. *Int. J. Appl. Sci. Comp.* **2**, 344–361.

Smith, J.M. (1991) *Fundamentals of Fractals for Engineers and Scientists*. John Wiley.

Stoyan, D. and Stoyan, H. (1994) *Fractals, Random Shapes and Point Fields: Methods of Geometric Statistics*. John Wiley.

Strichartz, R.S. (1993) Self-similar measures and their Fourier transforms III. *Indiana Univ. Math. J.* **42**, 367–411.

Sullivan, D. (1983) Conformal dynamical systems. In *Geometric Dynamics*; Lecture Notes in Mathematics, **1007**, 725–752, Springer-Verlag.

Tél, T. (1988) Fractals, multifractals and thermodynamics. *Zeit. Naturforsch* **43A**, 1154–1174.

Temam, R. (1988) *Infinite-dimensional Dynamical Systems in Mechanics and Physics*. Springer-Verlag.

Tricot, C. (1982) Two definitions of fractional dimension. *Math. Proc. Cambridge Philos. Soc.* **91**, 54–74.

Tricot, C. (1995) *Curves and fractal dimensions*. Springer-Verlag.

Vicsek, T. (1992) *Fractal Growth Phenomena*, 2nd Edition, World Scientific.

Walters, P. (1982) *An Introduction to Ergodic Theory*. Springer-Verlag.

Wicks, K.R. (1991) Fractals and Hyperspaces. *Lecture Notes in Mathematics* **1492**, Springer-Verlag.

Williams, D. (1991) *Probability with Martingales*. Cambridge University Press.

Zähle, U. (1984) Random fractals generated by random cutouts. *Math. Nachr.* **116**, 27–52.