

Bibliography

- [Amr] W.O. Amrein, *Hilbert space methods in quantum mechanics*, Fundamental Sciences. EPFL Press, Lausanne; distributed by CRC Press, Boca Raton, FL, 2009.
- [Ars] G. Arsu, *On Schatten-von Neumann class properties of pseudodifferential operators, The Cordes-Kato method*, J. Operator Theory 59, no. 1, 81–114, 2008.
- [Ban] S. Banach, *Theory of linear operations*, North-Holland Mathematical Library, 38. North-Holland Publishing Co., Amsterdam, 1987.
- [Bri] C. Brislawn, *Kernels of trace class operators*, Proc. Amer. Math. Soc. 104, no. 4, 1181–1190, 1988.
- [Cal] J.W. Calkin, *Two-sided ideals and congruences in the ring of bounded operators in Hilbert space*, Ann. of Math. (2) 42, 839–873, 1941.
- [CRSS] A.L. Carey, A. Rennie, A. Sedraev, F. Sukochev, *The Dixmier trace and asymptotics of zeta functions*, J. Funct. Anal. 249, no. 2, 253–283, 2007.
- [CS1] A.L. Carey, F.A. Sukochev, *Dixmier traces and some applications in non-commutative geometry*, Uspekhi Mat. Nauk 61, no. 6(372), 45–110, 2006; translation in Russian Math. Surveys 61, no. 6, 1039–1099, 2006.
- [CS2] A.L. Carey, F.A. Sukochev, *Measurable operators and the asymptotics of heat kernels and zeta functions*, J. Funct. Anal. 262, no. 10, 4582–4599, 2012.
- [Cha] I. Chavel, *Eigenvalues in Riemannian geometry*, Pure and Applied Mathematics 115. Academic Press, Inc., Orlando, FL, 1984.
- [Con] A. Connes, *The action functional in noncommutative geometry*, Comm. Math. Phys. 117, no. 4, 673–683, 1988.
- [Del] G. Dell’Antonio, *Lectures on the mathematics of quantum mechanics II, Selected topics*, Atlantis Studies in Mathematical Physics: Theory and Applications 2. Atlantis Press, Paris, 2016.
- [Dix] J. Dixmier, *Existence de traces non normales* (in French), C. R. Acad. Sci. Paris Sér. A-B 262, A1107–A1108, 1966.

- [DPSS] P.G. Dodds, B. de Pagter, E.M. Semenov, F.A. Sukochev, *Symmetric functionals and singular traces*, Positivity 2, no. 1, 47–75, 1998.
- [Fac] T. Fack, *Sur la notion de valeur caractéristique*, (in French), J. Operator Theory 7, no. 2, 307–333, 1982.
- [Fan] K. Fan, *Maximum properties and inequalities for the eigenvalues of completely continuous operators*, Proc. Nat. Acad. Sci., U.S.A. 37, 760–766, 1951.
- [GK] I.C. Gohberg, M.G. Krein, *Introduction to the theory of linear nonselfadjoint operators*, Translations of Mathematical Monographs Vol. 18, American Mathematical Society, Providence, R.I. 1969.
- [HLP] G. Hardy, J.E. Littlewood, G. Polya, *Inequalities*, Reprint of the 1952 edition, Cambridge Mathematical Library. Cambridge University Press, Cambridge, 1988.
- [Hor] A. Horn, *On the singular values of a product of completely continuous operators*, Proc. Nat. Acad. Sci. U.S.A. 36, 374–375, 1950.
- [KLPS] N. Kalton, S. Lord, D. Potapov, F. Sukochev, *Traces of compact operators and the noncommutative residue*, Adv. Math. 235, 1–55, 2013.
- [KSS] N.J. Kalton, A.A. Sedaev, F.A. Sukochev, *Fully symmetric functionals on a Marcinkiewicz space are Dixmier traces*, Adv. Math. 226, no. 4, 3540–3549, 2011.
- [Kat] T. Kato, *Perturbation theory for linear operators* (second edition), Classics in mathematics, Springer, 1995.
- [Les] M. Lesch, *Pseudodifferential operators and regularized traces*, in Motives, quantum field theory, and pseudodifferential operators, 37–72, Clay Math. Proc. 12, Amer. Math. Soc., Providence, RI, 2010.
- [LSZ] S. Lord, F. Sukochev, D. Zanin, *Singular traces, theory and applications*, Studies in mathematics 46, De Gruyter, 2013.
- [Lor] G.G. Lorentz, *A contribution to the theory of divergent sequences*, Acta Math. 80, 167–190, 1948.
- [Ma1] A.S. Markus, *Eigenvalues and singular values of the sum and product of linear operators*, Soviet math. Dokl. 3, 1238–1241, 1962.
- [Ma2] A.S. Markus, *Eigenvalues and singular values of the sum and product of linear operators*, Russian Mathematical Surveys 19, No 4, 91–120, 1964.
- [MOB] A. Marshall, I. Olkin, A. Barry, *Inequalities: theory of majorization and its applications* (second edition), Springer Series in Statistics, Springer, New York, 2011.

- [Mur] G.J. Murphy, *C*-algebras and operator theory*, Academic Press, Inc., Boston, MA, 1990.
- [Ped] G.K. Pedersen, *Analysis now*, Graduate Texts in Mathematics 118. Springer-Verlag, New York, 1989.
- [RS1] M. Reed, B. Simon, *Methods of modern mathematical physics I: Functional analysis*, Academic Press, Inc., 1972.
- [RS3] M. Reed, B. Simon, *Methods of modern mathematical physics III: Scattering theory*, Academic Press, Inc., 1979.
- [RS4] M. Reed, B. Simon, *Methods of modern mathematical physics IV: Analysis of operators*, Academic Press, Inc., 1978.
- [RT] M. Ruzhansky, V. Turunen, *Pseudo-differential operators and symmetries; background analysis and advanced topics*, Pseudo-Differential Operators, Theory and Applications 2. Birkhauser Verlag, Basel, 2010.
- [Sak] S. Sakai, *C*-algebras and W*-algebras*, Ergebnisse der Mathematik und ihrer Grenzgebiete, Band 60. Springer-Verlag, New York-Heidelberg, 1971.
- [Sch] R. Schatten, *Norm ideals of completely continuous operators*, Ergebnisse der Mathematik und ihrer Grenzgebiete. N. F., Heft 27 Springer-Verlag, Berlin-Göttingen-Heidelberg, 1960.
- [Shu] M.A. Shubin, *Pseudodifferential operators and spectral theory*, Second edition, Springer-Verlag, Berlin, 2001.
- [Sim] B. Simon, *Trace ideals and their applications* (second edition), Mathematical surveys and Monographs 120, AMS, 2005.
- [SU] F. Sukochev, A. Usachev, *Dixmier traces and non-commutative analysis*, J. Geom. Phys. 105, 102–122, 2016.
- [SUZ1] F. Sukochev, A. Usachev, D. Zanin, *Generalized limits with additional invariance properties and their applications to noncommutative geometry*, Adv. Math. 239, 164–189, 2013.
- [SUZ2] F. Sukochev, A. Usachev, D. Zanin, *On the distinction between the classes of Dixmier and Connes-Dixmier traces*, Proc. Amer. Math. Soc. 141, no. 6, 2169–2179, 2013.
- [SZ] F. Sukochev, D. Zanin, *ζ -function and heat kernel formulae*, J. Funct. Anal. 260, no. 8, 2451–2482, 2011.
- [Wey] H. Weyl, *Inequalities between the two kinds of eigenvalues of a linear transformation*, Proc. Nat. Acad. Sci. U.S.A. 35, 408–411, 1949.

- [Wod1] M. Wodzicki, *Local invariants of spectral asymmetry*, Invent. Math. 75, no. 1, 143–177, 1984.
- [Wod2] M. Wodzicki, *Noncommutative residue I, Fundamentals*, in K-theory, arithmetic and geometry (Moscow, 1984–1986), 320–399, Lecture Notes in Math., 1289, Springer, Berlin, 1987.