

REFERENCES

- [A-M-S] S. AIDA, T. MASUDA, I. SHIGEKAWA. Logarithmic Sobolev inequalities and exponential integrability. *J. Funct. Anal.* 126, 83–101 (1994).
- [A-S] S. AIDA, D. STROOCK. Moment estimates derived from Poincaré and logarithmic Sobolev inequalities. *Math. Res. Lett.* 1, 75–86 (1994).
- [A-L-R] M. AIZENMAN, J. L. LEBOWITZ, D. RUELLE. Some rigorous results on the Sherrington-Kirkpatrick spin glass model. *Comm. Math. Phys.* 112, 3–20 (1987).
- [Ale] S. ALESKER. Localization technique on the sphere and the Gromov-Milman theorem on the concentration phenomenon on uniformly convex sphere. *Convex Geometric Analysis (Berkeley 1996)*. Math. Sci. Res. Inst. Publ. 34. Cambridge Univ. Press (1999).
- [Alo] N. ALON. Eigenvalues and expanders. *Combinatorica* 6, 83–96 (1986).
- [Al-M] N. ALON, V. MILMAN. λ_1 , isoperimetric inequalities for graphs and superconcentrators. *J. Combin. Theory, Ser. B*, 38, 78–88 (1985).
- [Am-M] D. AMIR, V. MILMAN. Unconditional and symmetric sets in n -dimensional normed spaces. *Israel J. Math.* 37, 3–20 (1980).
- [A-L] C. ANÉ, M. LEDOUX. On logarithmic Sobolev inequalities for continuous time random walks on graphs. *Probab. Theory Relat. Fields* 116, 573–602 (2000).
- [An] C. ANÉ ET AL. Sur les inégalités de Sobolev logarithmiques. *Panoramas et Synthèses*, vol. 10. Soc. Math. de France (2000).
- [A-B-P] M. ANTILLA, K. BALL, I. PERISSINAKI. The central limit theorem for convex bodies (2000).
- [AR-V] J. ARIAS-DE-REYNA, R. VILLA. The uniform concentration of measure phenomenon in ℓ_p^n , ($1 \leq p \leq 2$). *Geometric Aspects of Functional Analysis, Israel Seminar 1996-2000. Lecture Notes in Math.* 1745, 13–18 (2000). Springer.
- [AR-B-V] J. ARIAS-DE-REYNA, K. BALL, R. VILLA. Concentration of the distance in finite dimensional normed spaces. *Mathematica* 45, 245–252 (1998).
- [A-V] R. AZENCOTT, N. VAYATIS. Refined exponential rates in Vapnik-Chervonenkis inequalities. *C. R. Acad. Sci Paris* 332, 563–568 (2001).
- [Az] K. AZUMA. Weighted sums of certain dependent random variables. *Tohoku Math. J.* 19, 357–367 (1967).

- [B-T] A. BAERENSTEIN II, B. A. TAYLOR. Spherical rearrangements, subharmonic functions and $*$ -functions in n -space. Duke Math. J. 43, 245–268 (1976).
- [B-D-J] J. BAIK, P. A. DEIFT, K. JOHANSSON. On the distribution of the longest increasing subsequence in a random permutation. J. Amer. Math. Soc. 12, 1119–1178 (1999).
- [Bak1] D. BAKRY. L’hypercontractivité et son utilisation en théorie des semi-groupes. Ecole d’Eté de Probabilités de St-Flour. Lecture Notes in Math. 1581, 1–114 (1994). Springer.
- [Bak2] D. BAKRY. On Sobolev and logarithmic Sobolev inequalities for Markov semigroups. New trends in Stochastic Analysis. 43–75 (1997). World Scientific.
- [B-E] D. BAKRY, M. EMERY. Diffusions hypercontractives. Séminaire de Probabilités XIX. Lecture Notes in Math. 1123, 177–206 (1985). Springer.
- [Ba-L] D. BAKRY, M. LEDOUX. Lévy-Gromov’s isoperimetric inequality for an infinite dimensional diffusion generator. Invent. math. 123, 259–281 (1996).
- [Bal] K. BALL. An elementary introduction to modern convex geometry. Flavors of Geometry. Math. Sci. Research Inst. Publ. 31. Cambridge Univ. Press (1997).
- [B-B-M] A. BARRON, L. BIRGÉ, P. MASSART. Risk bounds for model selection via penalization. Probab. Theory Relat. Fields 113, 301–413 (1999).
- [Bar1] F. BARTHE. Levels of concentration between exponential and Gaussian (2000).
- [Bar2] F. BARTHE. Poincaré inequalities for harmonic measures on spheres (2000).
- [BA-G] G. BEN AROUS, A. GUIONNET. Large deviations for Wigner’s law and Voiculescu’s non commutative entropy. Probab. Theory Relat. Fields 108, 517–542 (1997).
- [Benn] G. BENNETT. Probability inequalities for sums of independent random variables. J. Amer. Statist. Assoc. 57, 33–45 (1962).
- [Beny] Y. BENYAMINI. Two point symmetrization, the isoperimetric inequality on the sphere and some applications. Longhorn Notes, Functional Analysis Seminar 1983-84, 53–76, University of Texas.
- [B-M1] L. BIRGÉ, P. MASSART. From model selection to adaptive estimation. Festschrift for Lucien LeCam: Research papers in Probability and Statistics (D. Pollard, E. Torgersen and G. Yang, eds.) 55–87 (1997). Springer.
- [B-M2] L. BIRGÉ, P. MASSART. Minimum contrast estimators on sieves: exponential bounds and rates of convergence. Bernoulli 4, 329–375 (1998).
- [Bl1] G. BLOWER. The Gaussian isoperimetric inequality and transportation (1999). Positivity, to appear.
- [Bl2] G. BLOWER. Almost sure weak convergence for the generalized orthogonal ensemble (2000).
- [Bob1] S. BOBKOV. On Gross’ and Talagrand’s inequalities on the discrete cube. Vestnik of Syktyvkar University, 1, 12–19 (1995) (in Russian).

- [Bob2] S. BOBKOV. Isoperimetric inequalities for distributions of exponential type. *Ann. Probab.* 22, 978–994 (1994).
- [Bob3] S. BOBKOV. A functional form of the isoperimetric inequality for the Gaussian measure. *J. Funct. Anal.* 135, 39–49 (1996).
- [Bob4] S. BOBKOV. An isoperimetric inequality on the discrete cube and an elementary proof of the isoperimetric inequality in Gauss space. *Ann. Probab.* 25, 206–214 (1997).
- [Bob5] S. BOBKOV. Isoperimetric and analytic inequalities for log-concave probability measures. *Ann. Probab.*, 27, 1903–1921 (1999).
- [Bob6] S. BOBKOV. On deviations from medians (1999).
- [Bob7] S. BOBKOV. Remarks on the growth of L^p -norms on polynomials. *Geometric Aspects of Functional Analysis, Israel Seminar 1996–2000. Lecture Notes in Math.* 1745, 27–35 (2000). Springer.
- [B-G-L] S. BOBKOV, I. GENTIL, M. LEDOUX. Hypercontractivity of Hamilton-Jacobi equations (2000). *J. Math. Pures Appl.*, to appear.
- [B-G] S. BOBKOV, F. GÖTZE. Exponential integrability and transportation cost related to logarithmic Sobolev inequalities. *J. Funct. Anal.* 163, 1–28 (1999).
- [B-G-H] S. BOBKOV, F. GÖTZE, C. HOUDRÉ. On Gaussian and Bernoulli covariance representations. *Bernoulli* 7, 439–452 (2001).
- [B-H-T] S. BOBKOV, C. HOUDRÉ, P. TETALI. λ_∞ , vertex isoperimetry and concentration. *Combinatorica* 20, 153–172 (2000).
- [Bo-L1] S. BOBKOV, M. LEDOUX. Poincaré’s inequalities and Talagrand’s concentration phenomenon for the exponential measure. *Probab. Theory Relat. Fields* 107, 383–400 (1997).
- [Bo-L2] S. BOBKOV, M. LEDOUX. On modified logarithmic Sobolev inequalities for Bernoulli and Poisson measures. *J. Funct. Anal.* 156, 347–365 (1998).
- [Bo-L3] S. BOBKOV, M. LEDOUX. From Brunn-Minkowski to Brascamp-Lieb and to logarithmic Sobolev inequalities. *Geom. funct. anal.* 10, 1028–1052 (2000).
- [B-H] TH. BODINEAU, B. HELFFER. On Log-Sobolev inequalities for unbounded spin systems. *J. Funct. Anal.* 166, 168–178 (1999).
- [Bog] V. BOGACHEV. Gaussian measures. *Amer. Math. Soc.* (1998).
- [Bor1] C. BORELL. Convex measures on locally convex spaces. *Ark. Math.* 12, 239–252 (1974).
- [Bor2] C. BORELL. The Brunn-Minkowski inequality in Gauss space. *Invent. math.* 30, 207–216 (1975).
- [Bo-L-M] S. BOUCHERON, G. LUGOSI, P. MASSART. A sharp concentration inequality with applications. *Random Structures and Algorithms* 16, 277–292 (2000).
- [Bou] J. BOURGAIN. On the distribution of polynomials on high dimensional convex sets. *Geometric Aspects of Functional Analysis (Israel Seminar, 1989–90). Lecture Notes in Math.* 1469, 127–137 (1991). Springer.
- [B-L-M] J. BOURGAIN, J. LINDENSTRAUSS, V. D. MILMAN. Approximation of zonoids by zonotopes. *Acta Math.* 162, 73–141 (1989).
- [Bre] Y. BRENIER. Polar factorization and monotone rearrangement of vector-valued functions. *Comm. Pure Appl. Math.* 44, 375–417 (1991).

- [Bro] R. BROOKS. On the spectrum of non-compact manifolds with finite volume. *Math. Z.* 187, 425–437 (1984).
- [B-Z] Y. D. BURAGO, V. A. ZALGALLER. Geometric inequalities. First Edition (in Russian): Nauka (1980). Second Edition: Springer (1988).
- [Ca] O. CATONI. Free energy estimates and deviation inequalities (2000). *Ann. Inst. H. Poincaré*, to appear.
- [Cha1] I. CHAVEL. Eigenvalues in Riemannian geometry. Academic Press (1984).
- [Cha2] I. CHAVEL. Riemannian geometry - A modern introduction. Cambridge Univ. Press (1993).
- [Chee] J. CHEEGER. A lower bound for the smallest eigenvalue of the Laplacian. *Problems in Analysis*. Princeton, 195–199 (1970).
- [C-E] J. CHEEGER, D. EBIN. Comparison theorems in Riemannian geometry. North-Holland (1975).
- [Chen] S.-Y. CHENG. Eigenvalue comparison theorems and its geometric applications. *Math. Z.* 143, 289–297 (1975).
- [C-N] F. COMETS, J. NEVEU. The Sherrington-Kirkpatrick model of spin glasses and stochastic calculus: the high temperature case. *Comm. Math. Phys.* 166, 549–564 (1995).
- [CE] D. CORDERO-ERAUSQUIN. Some applications of mass transport to Gaussian type inequalities (2000). *Archiv der Math.*, to appear.
- [CE-MC-S] D. CORDERO-ERAUSQUIN, R. McCANN, M. SCHMUCKENSCHLÄGER. A Riemannian interpolation inequality à la Borell, Brascamp and Lieb (2000). *Invent. math.*, to appear.
- [DG] S. DAS GUPTA. Brunn-Minkowski inequality and its aftermath. *J. Multivariate Anal.* 10, 296–318 (1980).
- [Davi] C. DAVIS. All convex invariant functions of hermitian matrices. *Archiv der Math.* 8, 276–278 (1957).
- [Davie1] E. B. DAVIES. One-parameter semigroups. Academic Press (1980).
- [Davie2] E. B. DAVIES. Heat kernel and spectral theory. Cambridge Univ. Press (1989).
- [Da-S] E. B. DAVIES, B. SIMON. Ultracontractivity and the heat kernel for Schrödinger operators and Dirichlet Laplacians. *J. Funct. Anal.* 59, 335–395 (1984).
- [De] A. DEMBO. Information inequalities and concentration of measure. *Ann. Probability* 25, 927–939 (1997).
- [Dem-Z1] A. DEMBO, O. ZEITOUNI. Large deviations techniques and applications. First Edition: Jones & Bartlett Publishers. Second Edition: Springer (1998).
- [Dem-Z2] A. DEMBO, O. ZEITOUNI. Transportation approach to some concentration inequalities in product spaces. *Elect. Comm. in Probab.* 1, 83–90 (1996).
- [De-S] J.-D. DEUSCHEL, D. STROOCK. Large deviations. Academic Press (1989).
- [Deu-Z] J.-D. DEUSCHEL, O. ZEITOUNI. On increasing subsequences of i.i.d. samples. *Combinatorics, Probability and Computing* 8, 247–263 (1999).
- [D-SC] P. DIACONIS, L. SALOFF-COSTE. Logarithmic Sobolev inequalities for finite Markov chains. *Ann. Appl. Prob.* 6, 695–750 (1996).

- [Dud] R. M. DUDLEY. Real analysis and probability. Chapman & Hall (1989).
- [Du-S] N. DUNFORD, J. SCHWARTZ. Linear Operators. Part II: Spectral Theory. Interscience (1963).
- [Dur] R. DURRETT. Brownian motion and martingales in analysis. Wodsworth (1984).
- [Dv] A. DVORETZKY. Some results on convex bodies and Banach spaces. Proc. Symp. on Linear Spaces, Jerusalem, 123–160 (1961).
- [D-R] A. DVORETZKY, C. A. ROGERS. Absolute and unconditional convergence in normed linear spaces. Proc. Nat. Acad. Sci. U.S.A. 36, 192–197 (1950).
- [Eh] A. EHRHARD. Symétrisation dans l'espace de Gauss. Math. Scand. 53, 281–301 (1983).
- [Ev] L. C. EVANS. Partial differential equations. Amer. Math. Soc. (1997).
- [Fe] X. FERNIQUE. Fonctions aléatoires gaussiennes, vecteurs aléatoires gaussiens. Les publications CRM, Montréal (1997).
- [F-L-M] T. FIGIEL, J. LINDENSTRAUSS, V. D. MILMAN. The dimensions of almost spherical sections of convex bodies. Acta Math. 139, 52–94 (1977).
- [F-F] P. FRANKL, Z. FÜREDI. A short proof for a theorem of Harper about Hamming spheres. Discrete Math. 34, 311–313 (1981).
- [Fr] A. FRIEDMAN. Partial differential equations. Holt, Rinehart, Winston (1969).
- [F-O-T] M. FUKUSHIMA, Y. OSHIMA, M. TAKEDA. Dirichlet forms and symmetric Markov processes. De Gruyter (1994).
- [G-H-L] S. GALLOT, D. HULIN, J. LAFONTAINE. Riemannian Geometry. Second Edition. Springer (1990).
- [Gi-M1] A. GIANNOPoulos, V. MILMAN. Euclidean structure in finite dimensional normed spaces. The Handbook in the Geometry of Banach Spaces. Elsevier (2001).
- [Gi-M2] A. GIANNOPoulos, V. MILMAN. Concentration property on probability spaces. Advances in Math. 156 (2000).
- [Grom1] M. GROMOV. Paul Lévy's isoperimetric inequality. Preprint I.H.E.S. (1980).
- [Grom2] M. GROMOV. Metric structures for Riemannian and non-Riemannian spaces. Birkhäuser (1998).
- [Grom3] M. GROMOV. Spaces and question. Proceedings of “Visions in Mathematics – Towards 2000”. GAFA 2000, Special Volume, 118–161 (2000).
- [Gr-M1] M. GROMOV, V. D. MILMAN. A topological application of the isoperimetric inequality. Amer. J. Math. 105, 843–854 (1983).
- [Gr-M2] M. GROMOV, V. D. MILMAN. Generalization of the spherical isoperimetric inequality to uniformly convex Banach spaces. Compositio Math. 62, 263–282 (1987).
- [Gros1] L. GROSS. Logarithmic Sobolev inequalities. Amer. J. Math. 97, 1061–1083 (1975).
- [Gros2] L. GROSS. Logarithmic Sobolev inequalities and contractive properties of semigroups. Dirichlet Forms, Varenna 1992. Lect. Notes in Math. 1563, 54–88 (1993). Springer.

- [G-R] L. GROSS, O. ROTHAUS. Herbst inequalities for supercontractive semi-groups. *J. Math. Kyoto Univ.* 38, 295–318 (1998).
- [Gu] O. GUÉDON. Kahane-Khinchine type inequalities for negative exponent. *Mathematica* 46, 165–173 (1999).
- [G-Zeg] A. GUIONNET, B. ZEGARLINSKI. Lectures on logarithmic Sobolev inequalities (2000). *Séminaire de Probabilités*. Lecture Notes in Math., to appear. Springer.
- [G-Zei] A. GUIONNET, O. ZEITOUNI. Concentration of the spectral measure for large matrices. *Elect. Comm. Probab.* 5, 119–136 (2000).
- [Hi-P1] F. HIAI, D. PETZ. The semicircle law, free random variables and entropy. *Amer. Math. Soc.* (2000).
- [Hi-P2] F. HIAI, D. PETZ. A large deviation theorem for the empirical distribution of random unitary matrices. *Ann. Inst. H. Poincaré* 36, 71–85 (2000).
- [Ha] L. H. HARPER. Optimal numbering and isoperimetric problems on graphs. *J. Comb. Th.* 1, 385–393 (1966).
- [Hoe] W. J. HOEFFDING. Probability inequalities for sums of bounded random variables. *J. Amer. Statist. Assoc.* 58, 713–721 (1963).
- [H-J] R. A. HORN, C. JOHNSON. Matrix analysis. Cambridge Univ. Press (1985).
- [Hou] C. HOUDRÉ. Remarks on deviation inequalities for functions of infinitely divisible random vectors (2000).
- [Ho-P] C. HOUDRÉ, N. PRIVAULT. Deviation inequalities in infinite dimensions: An approach via covariance representations (2001).
- [H-T] C. HOUDRÉ, P. TETALI. Concentration of measure for products of Markov kernels via functional inequalities. *Combin. Probab. Comput.* 10 1–28 (2001).
- [H-PA-S] C. HOUDRÉ, V. PEREZ-ABREU, V. SURGAILIS. Interpolation, correlation identities and inequalities for infinitively divisible processes. *J. Fourier Anal. Appl.* 4, 651–668 (1998).
- [Hs] E. P. HSU. Analysis on path and loop spaces. Probability theory and applications (Princeton, NJ, 1996), 277–347, IAS/Park City Math. Ser. 6. Amer. Math. Soc. (1999).
- [I-S-T] I. A. IBRAGIMOV, V. N. SUDAKOV, B. S. TSIREL'SON. Norms of Gaussian sample functions. Proceedings of the third Japan-USSR Symposium on Probability Theory. Lecture Notes in Math. 550, 20–41 (1976). Springer.
- [I-W] N. IKEDA, S. WATANABE. Stochastic differential equations and diffusion processes. North-Holland (1989).
- [J-L] W. B. JOHNSON, J. LINDENSTRAUSS. The Handbook in the Geometry of Banach Spaces (Editors). Elsevier (2001).
- [J-S1] W. B. JOHNSON, G. SCHECHTMAN. Remarks on Talagrand's deviation inequality for Rademacher functions. Functional Analysis Seminar 1987–89, University of Texas. Lecture Notes in Math. 1470, 72–77 (1991). Springer.
- [J-S2] W. B. JOHNSON, G. SCHECHTMAN. Embedding ℓ_p^m into ℓ_1^n . *Acta Math.* 149, 71–85 (1982).

- [J-S3] W. B. JOHNSON, G. SCHECHTMAN. Finite dimensional subspaces of L_p . The Handbook in the Geometry of Banach Spaces. Elsevier (2001).
- [Ka] J.-P. KAHANE. Some random series of functions. First Edition: Heath Math. Monographs (1968). Second Edition: Cambridge Univ. Press (1985).
- [K-L-S] R. KANNAN, L. LOVÁSZ, M. SIMONOVITS. Isoperimetric problems for convex bodies and a localization lemma. *Discrete Comput. Geom.* 13, 541–559 (1995).
- [Ke] H. KESTEN. On the speed of convergence in first-passage percolation. *Ann. Appl. Probab.* 3, 296–338 (1993).
- [Kl] C. KLAASSEN. On an inequality of Chernoff. *Ann. Probab.* 13, 966–974 (1985).
- [Ko-S] A. KORZENIOWSKI, D. STROOCK. An example in the theory of hypercontractive semigroups. *Proc. Amer. Math. Soc.* 94, 87–90 (1985).
- [Kw] S. KWAPIEŃ. A theorem on the Rademacher series with vector valued coefficients. Probability in Banach Spaces, Oberwolfach 1975. Lecture Notes in Math. 526, 157–158 (1976). Springer.
- [Kw-S] S. KWAPIEŃ, J. SZULGA. Hypercontraction methods in moment inequalities for series of independent random variables in normed spaces. *Ann. Probab.* 19, 369–379 (1991).
- [K-W] S. KWAPIEŃ, W. A. WOYCZYŃSKI. Random series and stochastic integrals: Single and multiple. Birkhäuser (1992).
- [K-L-O] S. KWAPIEŃ, R. LATAŁA, K. OLESZKIEWICZ. Comparison of moments of sums of independent random variables and differential inequalities. *J. Funct. Anal.* 136, 258–268 (1996).
- [L-O] R. LATAŁA, K. OLESZKIEWICZ. Between Sobolev and Poincaré. Geometric Aspects of Functional Analysis, Israel Seminar 1996–2000. Lecture Notes in Math. 1745, 147–168 (2000). Springer.
- [Le1] M. LEDOUX. A heat semigroup approach to concentration on the sphere and on a compact Riemannian manifold. *Geom. funct. anal.* 2, 221–224 (1992).
- [Le2] M. LEDOUX. Remarks on logarithmic Sobolev constants, exponential integrability and bounds on the diameter. *J. Math. Kyoto Univ.* 35, 211–220 (1995).
- [Le3] M. LEDOUX. Isoperimetry and Gaussian Analysis. Ecole d’Eté de Probabilités de St-Flour 1994. Lecture Notes in Math. 1648, 165–294 (1996). Springer.
- [Le4] M. LEDOUX. On Talagrand’s deviation inequalities for product measures. *ESAIM Prob. & Stat.* 1, 63–87 (1996).
- [Le5] M. LEDOUX. Concentration of measure and logarithmic Sobolev inequalities. Séminaire de Probabilités XXXIII. Lecture Notes in Math. 1709, 120–216 (1999). Springer.
- [Le6] M. LEDOUX. The geometry of Markov diffusion generators. *Ann. Fac. Sci. Toulouse IX*, 305–366 (2000).
- [Le7] M. LEDOUX. Logarithmic Sobolev inequalities for unbounded spin systems revisited. Séminaire de Probabilités XXXV. Lecture Notes in Math. 1755, 167–194 (2000). Springer.

- [Le-T] M. LEDOUX, M. TALAGRAND. Probability in Banach spaces (Isoperimetry and processes). Springer (1991).
- [Le-Z] M. LEDOUX, J. ZINN. Probabilistic limit theorem in the setting of Banach spaces. The Handbook in the Geometry of Banach Spaces. Elsevier (2001).
- [Lé] P. LÉVY. Problèmes concrets d'analyse fonctionnelle. Gauthier-Villars (1951).
- [Li] M. A. LIFSHITS. Gaussian random functions. Kluwer (1995).
- [Li-T] J. LINDENSTRAUSS, L. TZAFIRI. Classical Banach spaces II. Springer (1979).
- [L-S] L. LOVÁSZ, M. SIMONOVITS. Random walks in a convex body and an improved volume algorithm. Random Structures and Algorithms 4, 369–412 (1993).
- [L-Z] T. LYONS, W. ZHENG. A crossing estimate for the canonical process on a Dirichlet space and tightness result. Colloque Paul Lévy, Astérisque 157-158, 249–272 (1988).
- [Ly] T. LYONS. Random thoughts on reversible potential theory. Summer School in Potentiel Theory, Joensuu 1990. Publications in Sciences 26, 71–114. University of Joensuu.
- [MC] R. J. McCANN. Existence and uniqueness of monotone measure-preserving maps. Duke Math. J. 80, 309–323 (1995).
- [MD1] C. McDIARMID. On the method of bounded differences. Surveys in Combinatorics. London Math. Soc. Lecture Notes 141, 148–188 (1989). Cambridge Univ. Press.
- [MD2] C. McDIARMID. Concentration. Probabilistic methods for algorithmic discrete mathematics, 195–248. Springer (1998).
- [MD3] C. McDIARMID. Concentration for independent permutations (2000).
- [MK] H. P. MCKEAN. Geometry of differential space. Ann. Probability 1, 197–206 (1973).
- [Mal] P. MALLIAVIN. Stochastic analysis. Springer (1997).
- [Mar1] K. MARTON. Bounding \bar{d} -distance by information divergence: a method to prove measure concentration. Ann. Probab. 24, 857–866 (1996).
- [Mar2] K. MARTON. A measure concentration inequality for contracting Markov chains. Geom. funct. anal. 6, 556–571 (1997).
- [Mar3] K. MARTON. Measure concentration for a class of random processes. Probab. Theory Relat. Fields 110, 427–439 (1998).
- [Mar4] K. MARTON. On a measure concentration of Talagrand for dependent random variables (1998).
- [Mas1] P. MASSART. About the constants in Talagrand's deviation inequalities for empirical processes (1998). Ann. Probab. 28, 863–884 (2000).
- [Mas2] P. MASSART. Some applications of concentration inequalities to statistics. Ann. Fac. Sci. Toulouse IX, 245–303 (2000).
- [Mau1] B. MAUREY. Constructions de suites symétriques. C. R. Acad. Sci. Paris 288, 679–681 (1979).
- [Mau2] B. MAUREY. Some deviations inequalities. Geom. funct. anal. 1, 188–197 (1991).
- [Me] M. L. MEHTA. Random matrices. Academic Press (1991).

- [M-P] M. MEYER, A. PAJOR. Sections of the unit ball of L_p^n . *J. Funct. Anal.* 80, 109–123 (1988).
- [Mi1] V. D. MILMAN. Asymptotic properties of functions of several variables that are defined on homogeneous spaces. *Dokl. Akad. Nauk SSR* 199, 1247–1250 (1971).
- [Mi2] V. D. MILMAN. A certain property of functions defined on infinite dimensional manifolds. *Dokl. Akad. Nauk SSR* 200, 781–784 (1971).
- [Mi3] V. D. MILMAN. New proof of the theorem of Dvoretzky on sections of convex bodies. *Funct. Anal. Appl.* 5, 28–37 (1971).
- [Mi4] V. D. MILMAN. Diameter of a minimal invariant subset of equivariant Lipschitz actions on compact subsets of \mathbb{R}^k . *Geometric Aspects of Functional Analysis, Israel Seminar 1996-2000. Lecture Notes in Math.* 1267, 13–20 (1987). Springer.
- [Mi5] V. D. MILMAN. The heritage of P. Lévy in geometrical functional analysis. *Colloque Paul Lévy sur les processus stochastiques. Astérisque* 157-158, 273–302 (1988).
- [Mi6] V. D. MILMAN. Dvoretzky’s theorem - Thirty years later (Survey). *Geom. funct. anal.* 2, 455–479 (1992).
- [Mi7] V. D. MILMAN. Topics in asymptotic geometric analysis. *Proceedings of “Visions in Mathematics – Towards 2000”. GAFA 2000, Special Volume,* 792–815 (2000).
- [M-S] V. D. MILMAN, G. SCHECHTMAN. Asymptotic theory of finite dimensional normed spaces. *Lecture Notes in Math.* 1200 (1986). Springer.
- [M-R] M. MOLLOY, B. A. REED. Graph colouring by the probabilistic method (2000). In preparation.
- [Nu] D. NUALART. The Malliavin calculus and related topics. Springer (1995).
- [O-V] F. OTTO, C. VILLANI. Generalization of an inequality by Talagrand, and links with the logarithmic Sobolev inequality. *J. Funct. Anal.* 173, 361–400 (2000).
- [Os] R. OSSERMAN. The isoperimetric inequality. *Bull. Amer. Math. Soc.* 84, 1182–1238 (1978).
- [Pe1] V. PESTOV. Amenable representations and dynamics of the unit sphere in an infinite dimensional Hilbert space. *Geom. funct. anal.* 10, 1171–1201 (2000).
- [Pa] V. PAULASKAS. Some remarks on deviation inequalities for infinitely divisible random vectors (2000).
- [Pe2] V. PESTOV. Ramsey-Milman phenomenon, Urysohn metric spaces and extremely amenable groups (2000). *Israel J. Math.*, to appear.
- [Pin] M. S. PINSKER. Information and information stability of random variables and processes. Holden-Day, San Francisco (1964).
- [Pis1] G. Pisier. On the dimension of the ℓ_p^n -subspaces of Banach spaces, for $1 \leq p < 2$. *Trans. Amer. Math. Soc.* 276, 201–211 (1983).
- [Pis2] G. PISIER. Probabilistic methods in the geometry of Banach spaces. *Probability and Analysis, Varenna (Italy) 1985. Lecture Notes in Math.* 1206, 167–241 (1986). Springer.
- [Pis3] G. PISIER. The volume of convex bodies and Banach space geometry. Cambridge Univ. Press (1989).

- [Ra1] S. T. RACHEV. The Monge-Kantorovich mass transference problem and its stochastic applications. *Theory Probab. Appl.* 24, 647–671 (1984).
- [Ra2] S. T. RACHEV. Probability metrics and the stability of stochastic models. Wiley (1991).
- [R-R] S. T. RACHEV, L. RÜSCHENDORFF. Mass transportation problems, vol. 1 & 2. Springer (1998).
- [R-Y] D. REVUZ, M. YOR. Continuous martingales and Brownian motions. Springer (1991).
- [Ri1] E. RIO. Inégalités de Hoeffding pour les fonctions lipschitziennes de suites dépendantes. *C. R. Acad. Sci. Paris* 330, 905–908 (2000).
- [Ri2] E. RIO. Inégalités de concentration pour les processus empiriques de classes de parties. *Probab. Theory Relat. Fields* 119, 163–175 (2001).
- [Ri3] E. RIO. Une inégalité de Bernstein pour les maxima de processus empiriques (2001). *Ann. Inst. H. Poincaré*, to appear.
- [Rot1] O. ROTHAUS. Diffusion on compact Riemannian manifolds and logarithmic Sobolev inequalities. *J. Funct. Anal.* 42, 358–367 (1981).
- [Rot2] O. ROTHAUS. Logarithmic Sobolev inequalities and the growth of L^p norms. *Proc. Amer. Math. Soc.* 126, 2309–2314 (1998).
- [Roy] G. ROYER. Une initiation aux inégalités de Sobolev logarithmiques. Cours Spécialisés. Soc. Math. de France (1999).
- [Ru] W. RUDIN. Real and complex analysis. McGraw-Hill (1987).
- [SC] L. SALOFF-COSTE. Lectures on finite Markov chains. Ecole d’Eté de Probabilités de St-Flour 1996. Lecture Notes in Math. 1665, 301–413 (1997). Springer.
- [Sa] P.-M. SAMSON. Concentration of measure inequalities for Markov chains and Φ -mixing processes. *Ann. Probab.* 28, 416–461 (2000).
- [Sche1] G. SCHECHTMAN. Lévy type inequality for a class of metric spaces. Martingale Theory and Harmonic Analysis and Banach spaces, Cleveland 1981. Lecture Notes in Math. 939, 211–215 (1981). Springer.
- [Sche2] G. SCHECHTMAN. A remark concerning the dependence on ϵ in Dvoretzky’s theorem. Geometric Aspects of Functional Analysis (Israel Seminar, 1987–88). Lecture Notes in Math. 1376, 274–277 (1989). Springer.
- [Sche3] G. SCHECHTMAN. More on embedding of Euclidean subspaces of L_p in ℓ_r^n . *Compositio Math.* 61, 159–170 (1987).
- [Sche4] G. SCHECHTMAN. An editorial comment on the preceding paper. Geometric Aspects of Functional Analysis, Israel Seminar 1996–2000. Lecture Notes in Math. 1745, 19–20 (2000). Springer.
- [Sche5] G. SCHECHTMAN. Concentration, results and applications. The Handbook in the Geometry of Banach Spaces. Elsevier (2001).
- [S-S1] G. SCHECHTMAN, M. SCHMUCKENSCHLÄGER. Another remark on the volume of the intersection of two L_p^n balls. Geometric Aspects of Functional Analysis (Israel Seminar, 1989–90). Lecture Notes in Math. 1469, 174–178 (1991). Springer.
- [S-S2] G. SCHECHTMAN, M. SCHMUCKENSCHLÄGER. A concentration inequality for harmonic measures on the sphere. Geometric Aspects of Functional Analysis (Israel Seminar, 1992–1994). Oper. Theory Adv. Appl. 77, 255–273 (1995). Birkhäuser.

- [S-Z1] G. SCHECHTMAN, J. ZINN. On the volume of the intersection of two L_p^n . Proc. Amer. Math. Soc. 110, 217–224 (1990).
- [S-Z2] G. SCHECHTMAN, J. ZINN. Concentration on the ℓ_p^n ball. Geometric Aspects of Functional Analysis, Israel Seminar 1996–2000. Lecture Notes in Math. 1745, 245–256 (2000). Springer.
- [Schmi] E. SCHMIDT. Die Brunn-Minkowskische Ungleichung und ihr Spiegelbild sowie die isoperimetrische Eigenschaft der Kugel in der euklidischen und nichteuklidischen Geometrie. Math. Nach. 1, 81–157 (1948).
- [Schmu1] M. SCHMUCKENSCHLÄGER. A concentration of measure phenomenon on uniformly convex bodies. Geometric Aspects of Functional Analysis (Israel Seminar, 1992–1994). Oper. Theory Adv. Appl. 77, 275–287. Birkhäuser (1995).
- [Schmu2] M. SCHMUCKENSCHLÄGER. Martingales, Poincaré type inequalities and deviations inequalities. J. Funct. Anal. 155, 303–323 (1998).
- [Schmu3] M. SCHMUCKENSCHLÄGER. Curvature of nonlocal Markov generators. Convex geometric analysis (Berkeley, CA, 1996), Math. Sci. Res. Inst. Publ. 34, 189–197. Cambridge Univ. Press (1999).
- [Si] B. SIMON. Trace ideals and their applications. Cambridge Univ. Press (1979).
- [So] A. SOSHNIKOV. Universality at the edge of the spectrum in Wigner random matrices. Comm. Math. Phys. 207, 697–733 (1999).
- [Ste] J. M. STEELE. Probability theory and combinatorial optimization. CB-MS-NSF Regional Conference Series in Applied Mathematics 69 (1996). SIAM.
- [Sto] W. F. STOUT Almost sure convergence. Academic Press (1974).
- [Str1] D. STROOCK. Logarithmic Sobolev inequalities for Gibbs states. Dirichlet forms, Varenna 1992. Lecture Notes in Math. 1563, 194–228 (1993).
- [Str2] D. STROOCK. Probability theory. An analytic view. Cambridge Univ. Press (1993).
- [S-V] D. STROOCK, S. VARADHAN. Multidimensional diffusion processes. Springer (1979).
- [S-T] V. N. SUDAKOV, B. S. TSIREL'SON. Extremal properties of half-spaces for spherically invariant measures. J. Soviet. Math. 9, 9–18 (1978); translated from Zap. Nauch. Sem. L.O.M.I. 41, 14–24 (1974).
- [Tak] M. TAKEDA. On a martingale method for symmetric diffusion process and its applications. Osaka J. Math. 26, 605–623 (1989).
- [Tal1] M. TALAGRAND. An isoperimetric theorem on the cube and the Khintchine-Kahane inequalities. Proc. Amer. Math. Soc. 104, 905–909 (1988).
- [Tal2] M. TALAGRAND. Isoperimetry and integrability of the sum of independent Banach space valued random variables. Ann. Probability 17, 1546–1570 (1989).
- [Tal3] M. TALAGRAND. A new isoperimetric inequality for product measure, and the concentration of measure phenomenon. Geometric Aspects of Functional Analysis (Israel Seminar, 1989–90) Lecture Notes in Math. 1469, 91–124 (1991). Springer.

- [Tal4] M. TALAGRAND. A new isoperimetric inequality for product measures and the tails of sums of independent random variables. *Geom. funct. anal.* 1, 211–223 (1991).
- [Tal5] M. TALAGRAND. Sharper bounds for Gaussian and empirical processes. *Ann. Probab.* 22, 28–76 (1994).
- [Tal6] M. TALAGRAND. The supremum of some canonical processes. *Amer. J. Math.* 116, 283–325 (1994).
- [Tal7] M. TALAGRAND. Concentration of measure and isoperimetric inequalities in product spaces. *Publications Mathématiques de l'I.H.E.S.* 81, 73–205 (1995).
- [Tal8] M. TALAGRAND. A new look at independence. *Ann. Probab.*, 24, 1–34 (1996).
- [Tal9] M. TALAGRAND. New concentration inequalities in product spaces. *Invent. math.* 126, 505–563 (1996).
- [Tal10] M. TALAGRAND. Transportation cost for Gaussian and other product measures. *Geom. funct. anal.* 6, 587–600 (1996).
- [Tal11] M. TALAGRAND. Majorizing measures: The generic chaining. *Ann. Probab.* (1997).
- [Tal12] M. TALAGRAND. The Sherrington-Kirkpatrick model: A challenge for mathematicians. *Probab. Theory Relat. Fields* 110, 109–176 (1998).
- [Tal13] M. TALAGRAND. Mean field models for spin glasses: A first course. *Ecole d’Eté de Probabilités de St-Flour 2000. Lecture Notes in Math.*, to appear. Springer.
- [V-W] A. N. VAN DER VAART, J. A. WELLNER. Weak convergence of empirical processes with applications to statistics. Springer (1996).
- [V-D-N] D. VOICULESCU, K. DYKEMA, A. NICÀ. Free random variables. CRM Monograph Series. Amer. Math. Soc. (1992).
- [W-W] D. L. WANG, P. WANG. Extremal configurations on a discrete torus and a generalization of the generalized Macaulay theorem. *Siam J. Appl. Math.* 33, 55–59 (1977).
- [Wu] L. WU. A new modified logarithmic Sobolev inequality for Poisson point processes and several applications. *Probab. Theory Relat. Fields* 118, 427–438 (2000).
- [Yo] K. YOSHIDA. Functional analysis. Springer (1980).
- [Yos] N. YOSHIDA. The log-Sobolev inequality for weakly coupled lattice fields. *Probab. Theor. Relat. Field* 115, 1–40 (1999).
- [Yu1] V. V. YURINSKII. Exponential bounds for large deviations. *Theor. Probability Appl.* 19, 154–155 (1974).
- [Yu2] V. V. YURINSKII. Exponential inequalities for sums of random vectors. *J. Multivariate Anal.* 6, 473–499 (1976).

INDEX

Bochner's formula
boundary measure
Cheeger's isoperimetric constant
concentration function
concentration inequality
convex infimum-convolution inequality
cost function
coupling distance
deviation inequality
entropy
equivariant
essential
expander graph
expansion coefficient
exponential concentration
extremal set
filtration
forward and backward martingale
free energy
 G -space
Hamming metric
harmonic measure
Herbst's argument
hereditary
infimum-convolution
infimum-convolution inequality
information theory
isoperimetric function
Laplace functional
length (metric space)
length (gradient)
Lévy family
Lévy's inequality
Lipschitz

logarithmic Sobolev inequality
log-concave measure
Markov chain
median
metric measure space
modified logarithmic Sobolev inequality
modulus of continuity
modulus of convexity
monotone
normal concentration
normal Lévy family
observable diameter
partition function
Poincaré inequality
property of concentration
quadratic transportation cost inequality
relative entropy
subadditive
transportation cost inequality
uniformly convex
variance