

## Bibliography

- [1] C.B. Allendoerfer and A. Weil, *The Gauss-Bonnet theorem for Riemannian polyhedra*, TAMS 53 (1943) 101-129.
- [2] M. Anderson, *Short Geodesics and Gravitational Instantons*, J. Diff. Geo. 31 (1990) 265-275.
- [3] M. Anderson, *Metrics of positive Ricci curvature with large diameter*, Manu. Math. 68 (1990) 405-415.
- [4] C. S. Aravinda and F. T. Farrell, *Nonpositivity: curvature vs. curvature operator*. Proc. Amer. Math. Soc. 133 (2005), no. 1, 191–192
- [5] V.I. Arnol'd, *Mathematical methods of classical mechanics*, New York: Springer-Verlag, 1989.
- [6] W. Ballmann, *Non-positively curved manifolds of higher rank*, Ann. Math. 122 (1985) 597-609.
- [7] W. Ballmann, *Spaces of non-positive curvature*, Basel: Birkhäuser, 1995.
- [8] W. Ballmann and P. Eberlein, *Fundamental groups of manifolds of non-positive curvature*, J. Diff. Geo. 25 (1987) 1-22.
- [9] W. Ballmann, V. Schroeder and M. Gromov, *Manifolds of non-positive curvature*, Boston: Birkhäuser, 1985.
- [10] M. Berger, *Riemannian geometry during the second half of the twentieth century*, University Lecture series, AMS 17.
- [11] A.L. Besse, *Einstein Manifolds*, Berlin-Heidelberg: Springer-Verlag, 1978.
- [12] A.L. Besse, *Manifolds all of whose geodesics are closed*, Berlin-Heidelberg: Springer-Verlag, 1987.
- [13] R.L. Bishop and R.J. Crittenden, *Geometry of Manifolds*, New York: Academic Press, 1964.
- [14] R.L. Bishop and S.I. Goldberg, *Tensor analysis on manifolds*, Dover, 1980.
- [15] A. Borel, *Seminar on Transformation Groups*, Ann. Math. Studies 46. Princeton: Princeton University Press 1960.
- [16] R. Bott and L.W. Tu, *Differential forms in algebraic topology*, New York: Springer-Verlag, 1982.
- [17] K. Burns and R. Spatzier, *On topological Tits buildings and their classification*, IHES Publ. Math. 65 (1987) 5-34.
- [18] M.P. do Carmo, *Differential forms and applications*, Berlin-Heidelberg: Springer Verlag, 1994.
- [19] M.P. do Carmo, *Riemannian Geometry*, Boston: Birkhäuser, 1993.
- [20] I. Chavel, *Riemannian Geometry, A Modern Introduction*, New York: Cambridge University Press, 1995.
- [21] J. Cheeger, *Comparison and finiteness theorems for Riemannian manifolds*, Ph. D. thesis, Princeton University.
- [22] J. Cheeger, *Finiteness theorems for Riemannian manifolds*, Am. J. Math. 92 (1970), 61-75.
- [23] J. Cheeger, *Pinching theorems for a certain class of Riemannian manifolds*, Am. J. Math. 92 (1970), 807-834.
- [24] J. Cheeger et al., *Geometric Topology: Recent developments*, LNM 1504, Berlin-Heidelberg: Springer-Verlag, 1991.
- [25] J. Cheeger and T. H. Colding, *On the structure of space with Ricci curvature bounded below*, J. Diff. Geo. 46 (1997), 406-480.
- [26] J. Cheeger and D. G. Ebin, *Comparison Theorems in Riemannian Geometry*, New York: North-Holland/Elsevier, 1975.
- [27] J. Cheeger and D. Gromoll, *The splitting theorem for manifolds of non-negative Ricci curvature*, J. Diff. Geo. 6 (1971) 119-128.

- [28] S.S. Chern, ed., *Global Geometry and Analysis*, 2nd edition, MAA Studies 27, Washington: Mathematical Association of America, 1989.
- [29] T. H. Colding, *Ricci curvature and volume convergence*, Ann. Math. 145 (1997) 477-501.
- [30] R. Courant and D. Hilbert, *Methods of Mathematical Physics*, vol. II, New York: Wiley Interscience, 1962.
- [31] B. Chow and D. Yang, *Rigidity of non-negatively curved compact quaternionic-Kähler manifolds*, J. Diff. Geo 29 (1989) 361-372.
- [32] X. Dai, P. Petersen and G. Wei, *Integral pinching theorems*, Manuscripta Math. 101 (2000), no. 2, 143-152.
- [33] D. DeTurk and J. Kazdan, *Some regularity theorems in Riemannian geometry*, Ann. scient. Éc. Norm. Sup. 14 (1981) 249-260.
- [34] P. Eberlein, *Geometry of Nonpositively Curved Manifolds*, Chicago: The University of Chicago Press, 1996.
- [35] R. Edwards and R. Kirby, *Deformations of spaces of embeddings*, Ann. of Math. 93 (1971), 63-88.
- [36] J.-H. Eschenburg, *Local convexity and non-negative curvature- Gromov's proof of the sphere theorem*, Invt. Math. 84 (1986) 507-522.
- [37] J.-H. Eschenburg and E. Heintze, *An elementary proof of the Cheeger-Gromoll splitting theorem*, Ann. Glob. Ana. and Geo. 2 (1984) 141-151.
- [38] T. Farrell and L. Jones, *Negatively curved manifolds with exotic smooth structures*, J. AMS 2 (1989) 899-908.
- [39] K. Fukaya, *Hausdorff convergence of Riemannian manifolds and its applications*, Advanced Studies in Pure Math. 18-I (1990) Recent topics in Differential and Analytic Geometry pp143-238.
- [40] S. Gallot, *Isoperimetric inequalities based on integral norms of Ricci curvature*, Astérisque, 157-158, (1988) pp191-216.
- [41] S. Gallot, D. Hulin and J. Lafontaine, *Riemannian Geometry*, Berlin-Heidelberg: Springer-Verlag, 1987.
- [42] S. Gallot and D. Meyer, *Opérateur de courbure et laplacien des formes différentielles d'une variété riemannienne*, J. Math. Pures Appl. 54 (1975), 259-284.
- [43] G. Gibbons and S. Hawking, *Gravitational multi-instantons*, Phys. Lett. B 78 (1978) 430-432.
- [44] D. Gilbarg and N.S. Trudinger, *Elliptic Partial Differential Equations of Second Order*, 2nd edition, Berlin-Heidelberg: Springer-Verlag, 1983.
- [45] R. Greene and S.T. Yau, eds., Proc. Symp. Pure Math. 54 vol 3 (1994).
- [46] M. Gromov, *Manifolds of negative curvature*, J. Diff. Geo. 12 (1978) 223-230.
- [47] M. Gromov, *Metric Structures for Riemannian and Non-Riemannian Spaces*, Boston: Birkhäuser, 1999.
- [48] M. Gromov and W. Thurston, *Pinching constants for hyperbolic manifolds*, Invt. Math. 89 (1987) 1-12.
- [49] K. Grove, H. Karcher, and E. Ruh, *Group actions and curvature*, Invt. Math. 23 (1974), 31-48.
- [50] K. Grove and P. Petersen, eds., *Comparison Geometry*, MSRI publications vol. 30, New York: Cambridge University Press, 1997.
- [51] K. Grove, P. Petersen, and J.-Y. Wu, *Geometric finiteness theorems via controlled topology*, Invt. Math. 99 (1990) 205-213, *Erratum* Invt. Math. 104 (1991) 221-222.
- [52] R.S. Hamilton, *The formation of singularities in the Ricci flow*, Surveys in Diff. Geo. vol. 2, International Press (1995) 7-136.
- [53] S. Helgason, *Differential Geometry, Lie Groups and Symmetric spaces*, New York-London: Academic Press, 1962.
- [54] W.-Y. Hsiang and B. Kleiner, *On the topology of positively curved 4-manifolds with symmetry*, J. Diff. Geo. 29 (1989), 615-621.
- [55] M. Ise and M. Takeuchi, *Lie Groups I, II*, Translations of Mathematical Monographs vol 85. Providence: AMS, 1991.
- [56] J. Jost, *Riemannian Geometry and Geometric Analysis*, Berlin-Heidelberg: Springer-Verlag, 1995.
- [57] J. Jost and H. Karcher, *Geometrische Methoden zur Gewinnung von a-priori-Schranken für harmonische Abbildungen*, Manu. Math. 19 (1982) 27-77.

- [58] W. Klingenberg, *Riemannian geometry*. Second edition. Berlin: Walter de Gruyter & Co., 1995.
- [59] S. Kobayashi, *Transformation Groups in Differential Geometry*, Berlin-Heidelberg: Springer-Verlag, 1972.
- [60] S. Kobayashi and K. Nomizu, *Foundations of Differential Geometry*, vols. I, II, New York: Wiley-Interscience, 1963.
- [61] H.B. Lawson Jr. and M.-L. Michelsohn, *Spin Geometry*, Princeton: Princeton University Press, 1989.
- [62] J.M. Lee and T.H. Parker, *The Yamabe problem*, Bull. AMS 17 (1987), 37-91.
- [63] J.M. Lee, *Introduction to Smooth Manifolds*, New York: Springer Verlag, 2003.
- [64] A. Lichnerowicz, *Géométrie des groupes de transformations*, Paris: Dunod, 1958.
- [65] A. Lichnerowicz, *Propagateurs et Commutateurs en relativité générale*, Publ. Math. IHES 10 (1961) 293-343.
- [66] M.J. Micallef and J.D. Moore, *Minimal 2-spheres and the topology of manifolds with positive curvature on totally isotropic 2-planes*, Ann. of Math. 127 (1988), 199-227.
- [67] R.K. Miller and A.N. Michel, *Ordinary differential equations*, New York-London: Academic Press, 1982.
- [68] J.W. Milnor, *Morse Theory*, Princeton: Princeton University Press, 1963.
- [69] J.W. Milnor and J.D. Stasheff, *Characteristic Classes*, Princeton: Princeton University Press, 1974.
- [70] C.W. Misner, K.S. Thorne and J.A. Wheeler, *Gravitation*, New York: Freeman, 1973.
- [71] N. Mok, *The uniformization theorem for compact Kähler manifolds of non-negative holomorphic bi-sectional curvature*, J. Diff. Geo. 27 (1988), 179-214.
- [72] J.W. Morgan, *The Seiberg-Witten equations and applications to the topology of smooth four-manifolds*, Princeton: Princeton Univ. Press, 1996.
- [73] B. O'Neill, *Semi-Riemannian Geometry*, New York-London: Academic Press, 1983.
- [74] Y. Otsu, *On manifolds of positive Ricci curvature with large diameters*, Math. Z. 206 (1991) 255-264.
- [75] M. Özaydin and G. Walschap, *Vector bundles with no soul*, PAMS 120 (1994) 565-567.
- [76] G. Perel'man, *Alexandrov's spaces with curvatures bounded from below II*, preprint.
- [77] S. Peters, *Cheeger's finiteness theorem for diffeomorphism classes of manifolds*, J. Reine Angew. Math. 349 (1984) 77-82.
- [78] P. Petersen, *Aspects of Global Riemannian Geometry*, Bull AMS 36 (1999), 297-344.
- [79] P. Petersen, S. Shteingold and G. Wei, *Comparison geometry with integral curvature bounds*, Geom Func Anal 7 (1997), 1011-1030.
- [80] P. Petersen and G. Wei, *Relative volume comparison with integral Ricci curvature bounds*, Geom Func Anal 7 (1997), 1031-1045.
- [81] G. de Rham, *Differentiable Manifolds*, Berlin-Heidelberg: Springer-Verlag, 1984.
- [82] X. Rong, *The almost cyclicity of the fundamental groups of positively curved manifolds*, Invt. Math. 126 (1996) 47-64. 126 (1996) 47-64. And *Positive curvature, local and global symmetry, and fundamental groups*, preprint, Rutgers, New Brunswick.
- [83] X. Rong, *A Bochner Theorem and Applications*, Duke Math. J. 91 (1998), 381-392.
- [84] X. Rong and X. Su, *The Hopf Conjecture for Manifolds with Abelian Group Actions*, Comm. Contemp. Math. 1 (2005) 1-16.
- [85] Y. Shen and S.-h. Zhu, *A sphere theorem for 3-manifolds with positive Ricci curvature and large diameter*, preprint, Dartmouth.
- [86] E.H. Spanier, *Algebraic Topology*, New York-Berlin-Heidelberg: Springer-Verlag, 1966.
- [87] M. Spivak, *A Comprehensive Introduction to Differential Geometry*, vols. I-V, Wilmington: Publish or Perish, 1979.
- [88] J. J. Stoker, *Differential Geometry*, New York: Wiley-Interscience, 1989.
- [89] S. Tachibana, *A theorem on Riemannian manifolds of positive curvature operator*, Proc. Japan Acad. 50 (1974), 301-302.
- [90] M.E. Taylor, *Partial differential equations*, vols. I-III, New York: Springer Verlag, 1996.
- [91] T.Y. Thomas, *Riemann spaces of class one and their characterization*, Acta Math. 67 (1936) 169-211.
- [92] F.W. Warner, *Foundations of Differentiable Manifolds and Lie Groups*, New York: Springer-Verlag, 1983.
- [93] H. Weyl, *The classical groups*, Princeton: Princeton University Press, 1966.

- [94] B. Wilking, *Index parity of closed geodesics and rigidity of Hopf fibrations*. Invent. Math. 144 (2001), no. 2, 281–295.
- [95] B. Wilking, *Torus actions on manifolds of positive curvature*, Acta Math. 191 (2003), 259–297.
- [96] J. Wolf, *Spaces of Constant Curvature*, Wilmington: Publish or Perish, 1984.
- [97] H.H. Wu, *The Bochner Technique in Differential Geometry*, Mathematical Reports vol. 3, part 2, London: Harwood Academic Publishers, 1988.