

NEW FRONTIERS IN CURVATURE

Flows, General Relativity, Minimal Submanifolds, and Symmetry

SLMath/MSRI, August 19 to December 20, 2024

- [1] B. ANDREWS, B. CHOW, C. GUENTHER, and M. LANGFORD, *Extrinsic geometric flows*, Graduate Studies in Mathematics **206**, American Mathematical Society, Providence, RI, 2020, ISBN 978-1-4704-5596-5. MR 4249616. Zbl 1475.53002. doi: 10.1090/gsm/206.
- [2] A. L. BESSE, *Einstein manifolds*, Ergebnisse der Mathematik und ihrer Grenzgebiete (3) **10**, Springer, Berlin, Germany, 1987, ISBN 3-540-15279-2; Reprinted in 2008, Classics in Mathematics, ISBN 978-3-540-74120-6. MR 867684. Zbl 0613.53001. doi: 10.1007/978-3-540-74311-8.
- [3] G. E. BREDON, *Introduction to compact transformation groups*, Pure and Applied Mathematics **46**, Academic Press, New York, NY, 1972. MR 413144. Zbl 0246.57017. <https://www.sciencedirect.com/bookseries/pure-and-applied-mathematics/vol/46/suppl/C>.
- [4] D. BURAGO, Y. BURAGO, and S. IVANOV, *A course in metric geometry*, Graduate Studies in Mathematics **33**, American Mathematical Society, Providence, RI, 2001, ISBN 0-8218-2129-6. MR 1835418. Zbl 0981.51016. doi: 10.1090/gsm/033.
- [5] H. D. CAO, B. CHOW, S. C. CHU, and S. T. YAU (eds.), *Collected papers on Ricci flow*, Series in Geometry and Topology **37**, International Press, Somerville, MA, 2003, ISBN 1-57146-110-8. MR 2145154. Zbl 1108.53002.
- [6] I. CHAVEL, *Eigenvalues in Riemannian geometry*, Pure and Applied Mathematics **115**, Academic Press, Orlando, FL, 1984, ISBN 0-12-170640-0. MR 768584. Zbl 0551.53001. <https://www.sciencedirect.com/bookseries/pure-and-applied-mathematics/vol/115/suppl/C>.
- [7] I. CHAVEL, *Isoperimetric inequalities: Differential geometric and analytic perspectives*, Cambridge Tracts in Mathematics **145**, Cambridge University Press, Cambridge, UK, 2001, ISBN 0-521-80267-9. MR 1849187. Zbl 0988.51019.
- [8] I. CHAVEL, *Riemannian geometry: A modern introduction*, 2nd ed., Cambridge Studies in Advanced Mathematics **98**, Cambridge University Press, Cambridge, UK, 2006, ISBN 978-0-521-61954-7; 0-521-61954-8. MR 2229062. Zbl 1099.53001. doi: 10.1017/CBO9780511616822.
- [9] J. CHEEGER and D. G. EBIN, *Comparison theorems in Riemannian geometry*, 2nd ed., American Mathematical Society, Providence, RI, 2008, ISBN 978-0-8218-4417-5; revision of the 1975 original. MR 2394158. Zbl 0309.53035. doi: 10.1090/chel/365.
- [10] Y. CHOQUET-BRUHAT, *Introduction to general relativity, black holes, and cosmology*, Oxford University Press, Oxford, UK, 2015, ISBN 978-0-19-966645-4; 978-0-19-966646-1. MR 3379262. Zbl 1307.83001. <https://global.oup.com/academic/product/introduction-to-general-relativity-black-holes-and-cosmology-9780199666461>.
- [11] B. CHOW, P. LU, and L. NI, *Hamilton's Ricci flow*, Graduate Studies in Mathematics **77**, American Mathematical Society, Providence, RI, 2006, ISBN 978-0-8218-4231-7; 0-8218-4231-5. MR 2274812. Zbl 1118.53001. doi: 10.1090/gsm/077.
- [12] T. H. COLDING and W. P. MINICOZZI, II, *A course in minimal surfaces*, Graduate Studies in Mathematics **121**, American Mathematical Society, Providence, RI, 2011, ISBN 978-0-8218-5323-8. MR 2780140. Zbl 1242.53007. doi: 10.1090/gsm/121.
- [13] K. ECKER, *Regularity theory for mean curvature flow*, Progress in Nonlinear Differential Equations and their Applications **57**, Birkhäuser, Boston, MA, 2004, ISBN 0-8176-3243-3. MR 2024995. Zbl 1058.53054. doi: 10.1007/978-0-8176-8210-1.

- [14] T. FRANKEL, *Gravitational curvature: An introduction to Einstein's theory*, Freeman, San Francisco, CA, 1979, ISBN 0-7167-1062-5. MR 518868. Zbl 0427.53009. <https://www.overdrive.com/media/1363955/gravitational-curvature>.
- [15] M. GIAQUINTA (ed.), *Topics in calculus of variations*, Lecture Notes in Mathematics **1365**, Springer, Berlin, Germany, 1989, ISBN 3-540-50727-2. MR 994016. Zbl 0668.00016. doi: 10.1007/BFb0089175.
- [16] S. KOBAYASHI and K. NOMIZU, *Foundations of differential geometry. Vol I*, Wiley, New York, NY, 1963, Reprinted in 1996, Wiley Classics Library, ISBN 0-471-15733-3. MR 152974. Zbl 0119.37502.
- [17] S. KOBAYASHI and K. NOMIZU, *Foundations of differential geometry. Vol. II*, Interscience Tracts in Pure and Applied Mathematics **15**, Wiley, New York, NY, 1969, Reprinted in 1996, Wiley Classics Library, ISBN 0-471-15732-5. MR 238225. Zbl 0175.48504.
- [18] H. B. LAWSON, JR., *Lectures on minimal submanifolds*, 2nd ed., Mathematics Lecture Series **9**, Publish or Perish, Wilmington, DE, 1980, ISBN 0-914098-18-7. MR 576752. Zbl 0434.53006.
- [19] D. A. LEE, *Geometric relativity*, Graduate Studies in Mathematics **201**, American Mathematical Society, Providence, RI, 2019, ISBN 978-1-4704-5081-6. MR 3970261. Zbl 07124831. doi: 10.1090/gsm/201.
- [20] J. M. LEE, *Introduction to Riemannian manifolds*, 2nd ed., Graduate Texts in Mathematics **176**, Springer, Cham, Switzerland, 2018, ISBN 978-3-319-91754-2; 978-3-319-91755-9. MR 3887684. Zbl 1409.53001. doi: 10.1007/978-3-319-91755-9.
- [21] P. LI, *Geometric analysis*, Cambridge Studies in Advanced Mathematics **134**, Cambridge University Press, Cambridge, UK, 2012, ISBN 978-1-107-02064-1. MR 2962229. Zbl 1246.53002. doi: 10.1017/CBO9781139105798.
- [22] J. C. C. NITSCHE, *Lectures on minimal surfaces, 1: Introduction, fundamentals, geometry and basic boundary value problems*, Cambridge University Press, Cambridge, UK, 1989, ISBN 0-521-24427-7. MR 1015936. Zbl 0688.53001.
- [23] R. OSSERMAN, *A survey of minimal surfaces*, 2nd ed., Dover Publications, New York, NY, 1986, ISBN 0-486-64998-9. MR 852409. Zbl 0209.52901. <https://www.overdrive.com/media/1532186/a-survey-of-minimal-surfaces>.
- [24] P. PETERSEN, *Riemannian geometry*, 3rd ed., Graduate Texts in Mathematics **171**, Springer, Cham, Switzerland, 2016, ISBN 978-3-319-26652-7; 978-3-319-26654-1. MR 3469435. Zbl 1417.53001. doi: 10.1007/978-3-319-26654-1.
- [25] J. T. PITTS, *Existence and regularity of minimal surfaces on Riemannian manifolds*, Mathematical Notes **27**, Princeton University Press, Princeton, NJ, 1981, ISBN 0-691-08290-1. MR 626027. Zbl 0462.58003. doi: 10.1515/9781400856459.
- [26] R. SCHOEN and S. T. YAU, *Lectures on harmonic maps*, Conference Proceedings and Lecture Notes in Geometry and Topology **2**, International Press, Somerville, MA, 1997, ISBN 1-57146-002-0. MR 1474501. Zbl 0886.53004.
- [27] L. SIMON, *Lectures on geometric measure theory*, Proceedings of the Centre for Mathematical Analysis **3**, Australian National University, Canberra, Australia, 1983, ISBN 0-86784-429-9. MR 756417. Zbl 0546.49019. <https://bit.ly/pcma-v3>.
- [28] P. TOPPING, *Lectures on the Ricci flow*, London Mathematical Society Lecture Note Series **325**, Cambridge University Press, Cambridge, UK, 2006, ISBN 978-0-521-68947-2; 0-521-68947-3. MR 2265040. Zbl 1105.58013. doi: 10.1017/CBO9780511721465.
- [29] R. M. WALD, *General relativity*, University of Chicago Press, Chicago, IL, 1984, ISBN 0-226-87032-4; 0-226-87033-2. MR 757180. Zbl 0549.53001. doi: 10.7208/chicago/9780226870373.001.0001.
- [30] X.-P. ZHU, *Lectures on mean curvature flows*, AMS/IP Studies in Advanced Mathematics **32**, American Mathematical Society, Providence, RI, 2002, ISBN 0-8218-3311-1. MR 1931534. Zbl 1197.53087. doi: 10.1090/amsip/032.