

We recommend the papers \cite{0878.35061,0861.35046,0874.49033}, \cite{0861.35046} for a first reading and \cite{trudinger:hessian}, \cite{0846.39007}, \cite{0874.49033}, \cite{0818.49023} as well as \cite{struwe:ym-local} for further studies. The paper \cite{struwe:ym-local} is especially interesting.

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We recommend the papers (Ivochkina and Ladyzhenskaya 1995b, Ivochkina and Ladyzhenskaya 1995a, Simon 1995b), (Ivochkina and Ladyzhenskaya 1995a) for a first reading and (Trudinger 1995), (Kuo and Trudinger 1995), (Simon 1995b), (Simon 1995a) as well as (Struwe 1994) for further studies. The paper (Struwe 1994) is especially interesting.

References

- Anderson, W. G., Brady, P. R., Israel, W., and Morsink, S. M. (1993). Quantum effects in black hole interiors. *Phys. Rev. Lett.*, 70(8):1041–1044.
- Bento, M. C., Bertolami, O., Moniz, P. V., Mourao, J. M., and Sa, P. M. (1993). On the cosmology of massive vector fields with $SO(3)$ global symmetry. *Class. Quant. Grav.*, 10:285–298. arXiv:gr-qc/9302034.
- Bertolami, O. and Mourao, J. M. (1991). The Ground state wave function of a radiation dominated universe. *Class. Quant. Grav.*, 8:1271–1282.
- Bertolami, O., Mourao, J. M., Picken, R. F., and Volobuev, I. P. (1991). Dynamics of euclidenized Einstein Yang-Mills systems with arbitrary gauge groups. *Int. J. Mod. Phys.*, A6:4149–4180.
- Bonanno, A., Droz, S., Israel, W., and Morsink, S. (1994a). The internal evolution of black holes. *Can. J. Phys.*, 72(11-12):755–759.
- Bonanno, A., Droz, S., Israel, W., and Morsink, S. (1995). Structure of the charged spherical black hole interior. *Proc. R. Soc. Lond., Ser. A*, 450(1940):553–567.
- Bonanno, A., Droz, S., Israel, W., and Morsink, S. M. (1994b). Black holes: The inside story. *Helv. Phys. Acta*, 67(6):626–631.
- Burd, A. and Lidsey, J. E. (1991). Analysis of inflationary models driven by vector fields. *Nuclear Physics B*, 351(3):679 – 694.
- Cavaglia, M. and de Alfaro, V. (1994). On a quantum universe filled with Yang-Mills radiation. *Mod. Phys. Lett.*, A9:569–578. gr-qc/9310001.
- Chung, T.-D. and Verlinde, H. (1994). Dynamical moving mirrors and black holes. *Nucl. Phys. B*, 418(1-2):305–336.
- Devlin, K. (1992). *The joy of sets*. Springer-Verlag, New-York-Berlin-Heidelberg.
- Gerhardt, C. (1993). Existenz für kleine Zeiten. pdf file, Lecture Note.
- Guan, B. (1994). The Dirichlet problem for a class of fully nonlinear elliptic equations. *Commun. Partial Differ. Equations*, 19(3-4):399–416.
- Guan, B. and Spruck, J. (1991). Interior gradient estimates for solutions of prescribed curvature equations of parabolic type. *Indiana Univ. Math. J.*, 40(4):1471–1481.
- Guan, B. and Spruck, J. (1993). Boundary-value problems on S^n for surfaces of constant Gauss curvature.
- Guan, B. and Wang, A. (1994). The Bergman kernel function and full group of holomorphic automorphisms on a Reinhardt domain. *Chin. Q. J. Math.*, 9(3):82–87.
- Helgason, S. (1994). *Geometric analysis on symmetric spaces*. Mathematical surveys and monographs; 39. American Math. Soc.
- Huisken, G. (1991). Singularity formation in geometric evolution equations. In *Theoretical and numerical aspects of geometric variational problems, Proc. Workshop, Canberra/Australia 1990, Proc. Cent. Math. Anal. Aust. Natl. Univ.* 26, 128-139 .
- Huisken, G. (1993). Local and global behaviour of hypersurfaces moving by mean curvature. In *Greene, Robert (ed.) et al., Differential geometry. Part 1: Partial differential equations on manifolds. Proceedings of a summer research institute, held at the University of California, Los Angeles, CA, USA, July 8-28, 1990. Providence, RI: American Mathematical Society. Proc. Symp. Pure Math. 54, Part 1, 175-191 .*
- Israel, W. (1992). Black holes: The inside story. In *Janis, Allen I. (ed.) et al., Recent advances in general relativity. Essays in honor of Ted Newman. Boston, MA: Birkhäuser Verlag. Einstein Stud. 4, 103-126 .*
- Israel, W. (1993). Classical and quantum dynamics of black hole interiors. In *Hu, B. L. (ed.) et al., Directions in general relativity. Proceedings of the international symposium held at the University of Maryland, College Park, MD, USA, May 27-29, 1993. Papers in honor of Charles Misner on the occasion of his 60th birthday. Vol. 1. Cambridge: Cambridge University Press. 182-200 .*

- Israel, W. (1994). The internal geometry of black holes. In *Beem, John K. (ed.) et al., Differential geometry and mathematical physics. AMS-CMS special session on geometric methods in mathematical physics, August 15-19, 1993, Vancouver, British Columbia, Canada. Providence, RI: American Mathematical Society. Contemp. Math.* 170, 155-165 .
- Ivochkina, N. (1991). The Dirichlet problem for the equations of curvature of order m . *Leningr. Math. J.*, 2(3):631–654.
- Ivochkina, N. (1992a). An optimal property of ℓ -minimal surfaces in viscosity interpretation. *J. Math. Sci., New York*, 77(3):3183–3189.
- Ivochkina, N. (1992b). The Dirichlet principle in the theory of equations of Monge-Ampère type. *St. Petersburg. Math. J.*, 4(6):1169–1189.
- Ivochkina, N. (1992c). Viscosity approach to the optimal property of ℓ -minimal surfaces. *Zap. Nauchn. Semin. POMI*, 200:71–82.
- Ivochkina, N. (1993). The variational principle and completely nonlinear second order equations.
- Ivochkina, N. (1994a). On conditions of solvability of the Dirichlet problem for the equation of curvature of order m . *Zap. Nauchn. Semin. POMI*, 213:66–74.
- Ivochkina, N. (1994b). On solvability conditions of the Dirichlet problem for m -curvature equations. *J. Math. Sci., New York*, 84(1):856–861.
- Ivochkina, N. (1994c). The variational principle and completely nonlinear second-order equations. In *Ladyzhenskaya, O. A. (ed.), Proceedings of the St. Petersburg Mathematical Society. Volume II. Transl. ed. by Simeon Ivanov. Providence, RI: American Mathematical Society. Transl., Ser. 2, Am. Math. Soc.* 159, 145-162 .
- Ivochkina, N. and Ladyzhenskaya, O. (1994a). On parabolic equations generated by symmetric functions of eigenvalues of the Hessian or by the principal curvatures of a surface. I: Parabolic Monge-Ampère equations. *Algebra Anal.*, 6(3):141–160.
- Ivochkina, N. and Ladyzhenskaya, O. (1994b). On parabolic equations generated by symmetric functions of the principal curvatures of the evolving surface, or of the eigenvalues of the Hessian. I: Monge-Ampère equations. *St. Petersburg. Math. J.*, 6(3):575–594.
- Ivochkina, N. and Ladyzhenskaya, O. (1994c). On parabolic problems generated by some symmetric functions of the eigenvalues of the Hessian. *Topol. Methods Nonlinear Anal.*, 4(1):19–29.
- Ivochkina, N. and Ladyzhenskaya, O. (1994d). The first initial-boundary value problem for evolution equations generated by traces of order m of the Hessian of the unknown surface. *Russ. Acad. Sci., Dokl., Math.*, 50(1):61–65.
- Ivochkina, N. and Ladyzhenskaya, O. (1995a). Estimation of the second derivatives for surfaces evolving under the action of their principal curvatures. *Topol. Methods Nonlinear Anal.*, 6(2):265–282.
- Ivochkina, N. and Ladyzhenskaya, O. (1995b). The first initial boundary-value problem for evolution equations generated by symmetric functions of principal curvatures. *Dokl. Math.*, 51(1):33–35.
- Ivochkina, N., Prokof'eva, S., and Yakunina, G. (1992). On a class of equations of Monge-Ampère type. *J. Math. Sci., New York*, 73(6):663–673.
- Kiem, Y., Verlinde, H., and Verlinde, E. (1995). Black hole horizons and complementarity. *Phys. Rev. D* (3), 52(12):7053–7065. arXiv:hep-th/9502074.
- Korotkii, V. A. and Obukhov, Y. N. (1994). Bianchi-IX cosmological models with rotation in general relativity theory. *Russ. Phys. J.*, 37:909–914.
- Künzle, H. P. (1991). $Su(n)$ -einstein-yang-mills fields with spherical symmetry. *Classical and Quantum Gravity*, 8(12):2283–2297.
- Künzle, H. P. (1994). Analysis of the static spherically symmetric $Su(n)$ -einstein-yang-mills equations. *Communications in Mathematical Physics*, 162(2):371–397.
- Kunzle, H. P. and ul Alam, A. K. M. M. (1993). Pure yang-mills fields on asymptotically flat curved r^3 . *Classical and Quantum Gravity*, 10(4):801–804.
- Kuo, H.-J. and Trudinger, N. (1993). On the discrete maximum principle for parabolic difference operators.
- Kuo, H.-J. and Trudinger, N. S. (1992). Discrete methods for fully nonlinear elliptic equations. *SIAM J. Numer. Anal.*, 29(1):123–135.
- Kuo, H.-J. and Trudinger, N. S. (1995). Local estimates for parabolic difference operators. *J. Differ. Equations*, 122(2):398–413.
- Lin, M. and Trudinger, N. S. (1994a). On some inequalities for elementary symmetric functions. *Bull. Aust. Math. Soc.*, 50(2):317–326.
- Lin, M. and Trudinger, N. S. (1994b). The Dirichlet problem for the prescribed curvature quotient equations. *Topol. Methods Nonlinear Anal.*, 3(2):307–323.
- Luo, Y. and Trudinger, N. S. (1991). Linear second order elliptic equations with Venttsel boundary conditions.
- Luo, Y. and Trudinger, N. S. (1994). Quasilinear second order elliptic equations with Venttsel boundary conditions. *Potential Anal.*, 3(2):219–243.
- Naito, H. (1993). On the Yang-Mills heat flow. In *Geometry and global analysis (Sendai, 1993)*, pages 319–326. Tohoku Univ., Sendai.

- Nehring, T. (1993). *Eingebettete Lösungen eines Außenraumproblems für Minimalflächen vom Typ des Kreisrings.* (Embedded solutions for an exterior minimal surface problem of annular type). PhD thesis, Heidelberg: Naturwiss.-Math. Fak., Univ. Heidelberg, 61 S. .
- Nehring, T. (1994). Embedded minimal annuli solving an exterior problem. *Calc. Var. Partial Differ. Equ.*, 2(4):373–388.
- Page, D. N. (1994). Quantum cosmology lectures. arXiv:gr-qc/9507028.
- Polchinski, J. (1994). What is string theory? arXiv:hep-th/9411028, 153 pages,.
- Råde, J. (1992). On the Yang-Mills heat equation in two and three dimensions. *J. Reine Angew. Math.*, 431:123–163.
- Ryan, Michael P., J. (1993). Cosmological 'ground state' wave functions in gravity and electromagnetism. arXiv:gr-qc/9312024.
- Sangwine-Yager, J. R. (1994). A representation for volume involving interior reach. *Math. Ann.*, 298(1):1–5.
- Schneider, R. (1993). *Convex bodies: the Brunn-Minkowski theory*, volume 44 of *Encyclopedia of Mathematics and its Applications*. Cambridge University Press, Cambridge.
- Schoutens, K., Verlinde, H., and Verlinde, E. (1995). Black hole evaporation and quantum gravity. In Halpern, M. B. (ed.) et al., *Strings '93. Proceedings of the conference, Berkeley, CA, USA, May 24-29, 1993*. Singapore: World Scientific. 22-49 .
- Simon, L. (1993a). Cylindrical tangent cones and the singular set of minimal submanifolds. *J. Differ. Geom.*, 38(3):585–652.
- Simon, L. (1993b). Existence of surfaces minimizing the Willmore functional. *Commun. Anal. Geom.*, 1(2):281–326.
- Simon, L. (1993c). Theorems on the regularity and singularity of minimal surfaces and harmonic maps. In Kotake, Takeshi (ed.) et al., *Geometry and global analysis. Report of the 1st MSJ (Mathematical Society of Japan) International Research Institute, Sendai, Japan, July 12–23, 1993*. Sendai: Tôhoku Univ., Mathematical Institute, 111-145 .
- Simon, L. (1994). Uniqueness of some cylindrical tangent cones. *Commun. Anal. Geom.*, 2(1):1–33.
- Simon, L. (1995a). Rectifiability of the singular set of energy minimizing maps. *Calc. Var. Partial Differ. Equ.*, 3(1):1–65.
- Simon, L. (1995b). Rectifiability of the singular sets of multiplicity 1 minimal surfaces and energy minimizing maps. In Hsiung, C. C. (ed.) et al., *Proceedings of the conference on geometry and topology held at Harvard University, Cambridge, MA, USA, April 23-25, 1993*. Cambridge, MA: International Press. *Surv. Differ. Geom., Suppl. J. Differ. Geom.* 2, 246-305 .
- Struwe, M. (1994). The Yang-Mills flow in four dimensions. *Calc. Var. Partial Differential Equations*, 2(2):123–150.
- Trudinger, N. S. (1994a). Isoperimetric inequalities and Monge-Ampère equations. In Bakelman, I. R. (ed.) et al., *A tribute to Ilya Bakelman. Proceedings of a conference, College Station, TX, USA, October 1993*. College Station, TX: Texas A & M University. *Discourses Math. Appl.* 3, 43-46 .
- Trudinger, N. S. (1994b). Isoperimetric inequalities for quermassintegrals.
- Trudinger, N. S. (1994c). Maximum principles for curvature quotient equations. *J. Math. Sci., Tokyo*, 1(3):551–565.
- Trudinger, N. S. (1995). On the Dirichlet problem for Hessian equations. *Acta Math.*, 175(2):151–164.
- Urbas, J. I. E. (1991). An expansion of convex hypersurfaces. *J. Differential Geom.*, 33(1):91–125.
- Verlinde, E. (1995a). Black hole evaporation and complementarity. In Iagolnitzer, Daniel (ed.), *Proceedings of the XIth international congress on mathematical physics, Paris, France, July 18-23, 1994*. Cambridge, MA: International Press. 668-673 .
- Verlinde, E. (1995b). Global aspects of electric-magnetic duality. *Nucl. Phys. B*, 455(1-2):211–225.
- Verlinde, E. and Verlinde, H. (1993). A quantum S -matrix for two-dimensional black hole formation and evaporation. *Nucl. Phys. B*, 406(1-2):43–58.
- Yunmei, C. and Chun-Li, S. (1994/11/01/). Monotonicity formula and small action regularity for yang-mills flows in higher dimensions. *Calculus of Variations and Partial Differential Equations*, 2(4):389–403.

