

REFERENCES

- [Ad] Adams, R., *Sobolev Spaces*, Academic Press, 1975.
- [AB] Ahlfors, L., and L. Bers, *Riemann's Mapping Theorem for Variable Metrics*, *Ann. Math.* 72 (1960), 385-404.
- [Ba] Baldes, A., *Stability and Uniqueness Properties of the Equator Map from a Ball into an Ellipsoid*, *MZ*, to appear.
- [Bg] Berg, P., *On Univalent Mappings by Solutions of Linear Partial Differential Equations*, *Trans. Amer. Math. Soc.* (1957), 310-318.
- [B] Bers, L., *An Outline of the Theory of Pseudoanalytic Functions*, *Bull. Amer. Math. Soc.* 62 (1956), 291-331.
- [BJS] Bers, L., F. John, and M. Schechter, *Partial Differential Equations*, Interscience, New York, 1964.
- [Bl] Blaschke, W., *Vorlesungen über Differentialgeometrie, Part I*, Springer, Berlin, 1945.
- [BC1] Brezis, H., and J.M. Coron, *Multiple Solutions of H-systems and Rellich's Conjecture*, *Comm. Pure Appl. Math.*, to appear.
- [BC2] Brezis, H., and J.M. Coron, *Large Solutions for Harmonic Maps in Two Dimensions*, *Comm. Math. Phys.*, to appear.
- [BK] Buser, P., and H. Karcher, *Gromov's Almost Flat Manifolds*, *Astérisque* 81 (1981).
- [Ca] Calabi, E., *An Intrinsic Characterization of Harmonic One-Forms*, in: *Global Analysis*, ed. by D.C. Spencer and S. Iyanaga, Princeton Univ. Press, Tokyo, Princeton, 1969.
- [Ci] Choi, H.J., *On the Liouville Theorem for Harmonic Maps*, Preprint.
- [Cq] Choquet, G., *Sur un type de transformation analytique généralisant la représentation conforme et définie au moyen de fonctions harmoniques*, *Bull. Sci. Math. (2)* 69 (1945), 156-165.
- [Co] Courant, R., *Dirichlet's Principle, Conformal Mapping, and Minimal Surfaces*, New York, Interscience, 1950.
- [dTK] De Turck, D., and J. Kazdan, *Some Regularity Theorems in Riemannian Geometry*, *Ann. Sc. Ec. N. Sup. Paris*.
- [EE] Earle, C.J., and J. Eells, *A Fibre Bundle Description of Teichmüller Theory*, *J. Diff. Geom.* 3 (1969), 19-43.
- [E] Eells, J., *Regularity of Certain Harmonic Maps*, *Proc. Durham Conf.* 1982.
- [EL1] Eells, J., and L. Lemaire, *A Report on Harmonic Maps*, *Bull. London Math. Soc.* 10 (1978), 1-68.

- [EL2] Eells, J., and L. Lemaire, Deformations of Metrics and Associated Harmonic Maps, *Patodi Mem. Vol. Geometry and Analysis*, Tata Inst., 1980, 33-45.
- [EL3] Eells, J., and L. Lemaire, On the Construction of Harmonic and Holomorphic Maps Between Surfaces, *Math. Ann.* 252 (1980), 27-52.
- [EL4] Eells, J., and L. Lemaire, Selected Topics in Harmonic Maps, *CBMS Regional Conf.*, 1981.
- [ES] Eells, J., and J.H. Sampson, Harmonic Mappings of Riemannian Manifolds, *Am. J. Math.* 86 (1964), 109-160.
- [EW] Eells, J., and J.C. Wood, Restrictions on Harmonic Maps of Surfaces, *Top.* 15 (1976), 263-266.
- [Es] Eliasson, H.I., A Priori Growth and Hölder Estimates for Harmonic Mappings, *Univ. Iceland, Preprint*, 1981.
- [F] Federer, H., *Geometric Measure Theory*, Springer, Grundlehren 163, New York, 1969.
- [Fe] Fenchel, W., Elementare Beweise und Anwendungen einiger Fixpunktsätze, *Mat. Tidsskr. (B)* (1932), 66-87.
- [GR] Gerstenhaber, M., and H.E. Rauch, On Extremal Quasiconformal Mappings I, II, *Proc. Nat. Ac. Sc.* 40 (1954), 808-812 and 991-994.
- [G] Giaquinta, M., Multiple Integrals in the Calculus of Variations and Non Linear Elliptic Systems, *SFB 72, Vorlesungsreihe No. 6*, Bonn, 1981.
- [GG1] Giaquinta, M., and Giusti, E., On the Regularity of the Minima of Variational Integrals, *Acta Math.* 148 (1982), 31-46.
- [GG2] Giaquinta, M., and Giusti, E., The Singular Set of the Minima of Certain Quadratic Functionals, to appear in *Analysis*.
- [GH] Giaquinta, M., and S. Hildebrandt, A Priori Estimates for Harmonic Mappings, *J. Reine Angew. Math.*
- [GT] Gilbarg, D., and N.S. Trudinger, *Elliptic Partial Differential Equations of Second Order*, Springer, Grundlehren 224, Berlin, Heidelberg, New York, 1977.
- [Go] Gordon, W., Convex Functions and Harmonic Mappings, *Proc. Amer. Math. Soc.* 33 (1933), 433-437.
- [GKM] Gromoll, D., W. Klingenberg, and W. Meyer, *Riemannsche Geometrie im Grossen*, L.N.M. 55, Springer, Berlin, Heidelberg, New York, 1975.
- [GW] Grüter, M., and K.-O. Widman, The Green Function for Uniformly Elliptic Equations, *Man. Math.* 37 (1982), 303-342.
- [Hm] Hamilton, R., *Harmonic Maps of Manifolds with Boundary*, L.N.M. 471, Springer, Berlin, Heidelberg, New York, 1975.

- [Ht] Hartman, P., On Homotopic Harmonic Maps, *Can. J. Math.* 19 (1967), 673-687.
- [HtW] Hartman, P., and A. Wintner, On the Local Behavior of Solutions of Nonparabolic Partial Differential Equations, *Amer. J. Math.* 75 (1953), 449-476.
- [Hz1] Heinz, E., On Certain Nonlinear Elliptic Differential Equations and Univalent Mappings, *Journ. d'Anal.* 5 (1956/57), 197-272.
- [Hz2] Heinz, E., Neue a-priori Abschätzungen für den Ortsvektor einer Fläche positiver Gaußscher Krümmung durch ihr Linienelement, *Math. Z.* 74 (1960), 129-157.
- [Hz3] Heinz, E., Existence Theorems for One-to-One Mappings Associated with Elliptic Systems of Second Order, part I, *Journ. d'Anal.* 15 (1965), 325-353.
- [Hz4] Heinz, E., Existence Theorems for One-to-One Mappings Associated with Elliptic Systems of Second Order, part II, *Journ. d'Anal.* 17 (1965), 145-184.
- [Hz5] Heinz, E., Zur Abschätzung der Funktionaldeterminante bei einer Klasse topologischer Abbildungen, *Nachr. Akad. Wiss. Gött.* (1968), 183-197.
- [Hi1] Hildebrandt, S., On the Plateau Problem for Surfaces of Constant Mean Curvature, *Comm. Pure Appl. Math.* 23, (1970), 97-114.
- [Hi2] Hildebrandt, S., Nonlinear Elliptic Systems and Harmonic Mappings, *Proc. Beijing Symp. Diff. Geom. & Diff. Eq.* 1980, Science Press, Beijing, 1982, also in SFB 72, Vorlesungsreihe No. 4, Bonn, 1980.
- [HJW] Hildebrandt, S., J. Jost, and K.-O. Widman, Harmonic Mappings and Minimal Submanifolds, *Inv. Math.* 62 (1980), 269-298.
- [HJW1] Hildebrandt, S., H. Kaul, and K.-O. Widman, Harmonic Mappings into Riemannian Manifolds with Non-positive Sectional Curvature, *Math. Scand.* 37 (1975), 257-263.
- [HJW1] Hildebrandt, S., H. Kaul, and K.-O. Widman, Dirichlet's Boundary Value Problem for Harmonic Mappings of Riemannian Manifolds, *Math. Z.* 147 (1976), 225-236.
- [HJW3] Hildebrandt, S., H. Kaul, and K.-O. Widman, An Existence Theorem for Harmonic Mappings of Riemannian Manifolds, *Acta Math.* 138 (1977), 1-16.
- [HW1] Hildebrandt, S., and K.-O. Widman, Some Regularity Results for Quasilinear Elliptic Systems of Second Order, *Math. Z.* 142 (1975), 67-86.
- [HW2] Hildebrandt, S., and K.-O. Widman, On the Hölder Continuity of Weak Solutions of Quasilinear Elliptic Systems of Second Order, *Ann. Sc. N. Sup. Pisa IV* (1977), 145-178.

- [HOS] Hoffman, D.A., R. Osserman, and R. Schoen, On the Gauss Map of Complete Surfaces of Constant Mean Curvature in \mathbb{R}^3 and \mathbb{R}^4 , *Comm. Math. Helv.* 57 (1982), 519-531.
- [Jäk1] Jäger, W., and H. Kaul, Uniqueness of Harmonic Mappings and of Solutions of Elliptic Equations on Riemannian Manifolds, *Math. Ann.* 240 (1979), 231-250.
- [Jäk2] Jäger, W., and H. Kaul, Uniqueness and Stability of Harmonic Maps and their Jacobi Fields, *Man. Math.* 28 (1979), 269-291.
- [Jäk3] Jäger, W., and H. Kaul, Rotationally Symmetric Harmonic Maps from a Ball into a Sphere and the Regularity Problem for Weak Solutions of Elliptic System, *J. Reine Angew. Math.* 343 (1983), 146-161.
- [J1] Jost, J., Eineindeutigkeit harmonischer Abbildungen, Diplomarbeit, Bonn, 1979, also *Bonner Math. Schr.* 129 (1981).
- [J2] Jost, J., Eine geometrische Bemerkung zu Sätzen über harmonische Abbildungen, die ein Dirichletproblem lösen, *Man. Math.* 32 (1980), 51-57.
- [J3] Jost, J., Univalence of Harmonic Mappings between Surfaces, *J. Reine Angew. Math.* 324 (1981), 141-153.
- [J4] Jost, J., Eine Existenzbeweis für harmonische Abbildungen, die ein Dirichletproblem lösen, mittels der Methode des Wärmeflusses, *Man. Math.* 34 (1981), 17-25.
- [J5] Jost, J., A Maximum Principle for Harmonic Mappings which Solve a Dirichlet Problem, *Man. Math.* 38 (1982), 129-130.
- [J6] Jost, J., Existence Proofs for Harmonic Mappings with the Help of Maximum Principle, *Math. Z.* 184 (1983), 489-496.
- [J7] Jost, J., The Dirichlet Problem for Harmonic Maps from a Surface with Boundary onto a 2-Sphere with Non-Constant Boundary Values, *J. Diff. Geom.*, to appear.
- [J8] Jost, J., *Harmonic Maps Between Surfaces*, Springer Lecture Notes, to appear.
- [J9] Jost, J., *Conformal Mappings and the Plateau-Douglas Problem*, Preprint.
- [JK1] Jost, J., and H. Karcher, Geometrische Methoden zur Gewinnung von a-priori-Schranken für harmonische Abbildungen, *Man. Math.* 40 (1982), 27-77.
- [JK2] Jost, J., and H. Karcher, Almost Linear Functions and A-Priori Estimates for Harmonic Maps, *Proc. Durham Conf.* 1982.
- [JM] Jost, J., and M. Meier, Boundary Regularity for Minima of Certain Quadratic Functionals, *Math. Ann.* 262 (1983), 549-561.
- [JS] Jost, J., and R. Schoen, On the Existence of Harmonic Diffeomorphisms Between Surfaces, *Inv. Math.* 66 (1982), 353-359.

- [JY] Jost, J., and S.T. Yau, Harmonic Mappings and Kähler Manifolds, *Math. Ann.* 262 (1983), 145-166.
- [K1] Karcher, H., Schnittort und konvexe Mengen in vollständigen Riemannschen Mannigfaltigkeiten, *Math. Ann.* 177 (1968), 105-121.
- [K2] Karcher, H., Riemannian Center of Mass and Mollifier Smoothing, *CPAM* 30 (1977), 509-541.
- [KW] Karcher, H., and J.C. Wood, Non-Existence Results and Growth Properties for Harmonic Maps and Forms, Preprint, SFB 40, Bonn, 1983.
- [Kn1] Kneser, H., Lösung der Aufgabe 41, *Jber. Dtsch. Math. Ver.* 35 (1926), 123-124.
- [Kn2] Kneser, H., Die kleinste Bedeckungszahl innerhalb einer Klasse von Flächenabbildungen, *Math. Ann.* 103 (1930), 347-358.
- [LU] Ladyženskaja, O.A., and N.N. Ural'ceva, *Équations aux dérivées partielles de type elliptique*, Dunod, Paris, 1968.
- [Lv] Lavrent'ev, M.A., Sur une classe des représentations continues, *Mat. Sb.* (1935), 407-434.
- [Lz] Leibniz, G.W., *Die Theodizee*, *Phil. Bibl.* 71, Felix Meiner, Hamburg, 2 1968.
- [L1] Lemaire, L., Applications harmoniques de surfaces Riemanniennes, *J. Diff. Geom.* 13 (1978), 51-78.
- [L2] Lemaire, L., Boundary Value Problems for Harmonic and Minimal Maps of Surfaces into Manifolds, *Ann. Sc. Norm. Sup. Pisa* (4) 8 (1982), 91-103.
- [L3] Lemaire, L., Applications harmoniques de variétés produits, *Comm. Math. Helv.* 52 (1977), 11-24.
- [Li] Lichtenstein, L., Zur Theorie der konformen Abbildung. Konforme Abbildung nichtanalytischer singularitätenfreier Flächenstücke auf ebene Gebiete, *Bull. Acad. Sci. Cracovie, Cl. Sci. Mat. Nat. A* (1916), 192-217.
- [MS] Meyers, N., and J. Serrin, $H = W$, *Proc. Nat. Ac. Sc.* 51 (1964), 1055-1056.
- [M1] Morrey, C.B., On the Solutions of Quasi-Linear Elliptic Partial Differential Equations, *Trans. Amer. Math. Soc.* 43 (1938), 126-166.
- [M2] Morrey, C.B., The Problem of Plateau on a Riemannian Manifold, *Ann. Math.* 49 (1948), 807-851.
- [M3] Morrey, C.B., *Multiple Integrals in the Calculus of Variations*, Springer, Berlin, Heidelberg, New York, 1966.
- [Mo] Moser, J., On Harnack's Theorem for Elliptic Differential Equations, *CPAM* 14 (1961), 577-591.

- [Na] Nash, J., The Embedding Problem for Riemannian Manifolds, *Ann. Math.* 63 (1956), 20-63.
- [Rd] Rado, T., Aufgabe 41, *Jber. Dtsch. Math. Ver.* 35 (1926), 49.
- [RV] Ruh, E.A., and J. Vilms, The Tension Field of the Gauss Map, *Trans. Amer. Math. Soc.* 49 (1970), 569-573.
- [SkU] Sacks, J., and K. Uhlenbeck, The Existence of Minimal Immersions of 2-Spheres, *Ann. Math.* 113 (1981), 1-24.
- [Sa] Sampson, J.H., Some Properties and Applications of Harmonic Mappings, *Ann. Sc. Ec. Sup.* 11 (1978), 211-228.
- [SU1] Schoen, R., and K. Uhlenbeck, A Regularity Theory for Harmonic Maps, *J. Diff. Geom.* 17 (1982), 307-335.
- [SU2] Schoen, R., and K. Uhlenbeck, Boundary Regularity and Miscellaneous Results on Harmonic Maps, to appear in *J. Diff. Geom.*
- [SY1] Schoen, R., and S.T. Yau, On Univalent Harmonic Maps between Surfaces, *Inv. Math.* 44 (1978), 265-278.
- [SY2] Schoen, R., and S.T. Yau, Existence of Incompressible Minimal Surfaces and the Topology of Three Dimensional Manifolds with Non-Negative Scalar Curvature, *Ann. Math.* 10 (1979), 127-142.
- [SY3] Schoen, R., and S.T. Yau, Compact Group Actions and the Topology of Manifolds with Non-Positive Curvature, *Top.* 18 (1979), 361-380.
- [Se1] Sealey, H., Some Properties of Harmonic Mappings, Thesis, Univ. Warwick, 1980.
- [Se2] Sealey, H., The Stress-Energy Tensor and the Vanishing of L^2 -Harmonic Forms, Preprint.
- [Sh] Shibata, K., On the Existence of a Harmonic Mapping, *Osaka J. Math.* 15 (1963), 173-211.
- [Sm] Simon, L., Asymptotics for a Class of Non-Linear Evolution Equations, with Applications to Geometric Problems, Research Report CMA-805-83, Canberra, 1983.
- [Si] Siu, Y.T., The Complex Analyticity of Harmonic Maps and the Strong Rigidity of Compact Kähler Manifolds, *Ann. Math.* 112 (1980), 73-111.
- [Sp] Sperner, E., A Priori Gradient Estimates for Harmonic Mappings, SFB 72, Preprint 513, Bonn, 1982.
- [Td] Tolksdorf, P., A Strong Maximum Principle and Regularity for Harmonic Mappings, Preprint.
- [Tr] Tromba, A., A New Proof that Teichmüller Space is a Cell, Preprint.
- [U] Uhlenbeck, K., Harmonic Maps: A Direct Method in the Calculus of Variations, *Bull. Amer. Math. Soc.* 76 (1970), 1082-1087.

- [vW] von Wahl, W., Klassische Lösbarkeit im Grossen für nichtlineare parabolische Systeme und das Verhalten der Lösungen für $t \rightarrow \infty$, Nachr. Akad. Wiss. Göttingen.
- [Wt] Wentz, H., The Differential equations $\Delta x = 2Hx_u \wedge x_v$ with Vanishing Boundary Values, Proc. Amer. Math. Soc. 50 (1975), 131-137.
- [Wi] Wiegner, M., A priori Schranken für Lösungen gewisser elliptischer Systeme, Man. Math. 18 (1976), 279-297.
- [W1] Wood, J.C., Singularities of Harmonic Maps and Applications of the Gauss-Bonnet Formula, Amer. J. Math. 99 (1977), 1329-1344.
- [W2] Wood, J.C., Non-existence of Solutions to Certain Dirichlet Problems, Preprint, Leeds, 1981.