

93d:58006 58-06 00B25 81-06

★**Mathematical aspects of classical field theory.**

Proceedings of the AMS-IMS-SIAM Joint Summer Research Conference held at the University of Washington, Seattle, Washington, July 20–26, 1991.

Edited by Mark J. Gotay, Jerrod E. Marsden [Jerrold Eldon Marsden] and Vincent Moncrief.

Contemporary Mathematics, 132.

American Mathematical Society, Providence, RI, 1992. x+644 pp.

\$79.00. ISBN 0-8218-5144-6

Contents: Victor Aldaya, Jose Navarro-Salas and Miguel Navarro, Hidden symmetries in field theory (1–25); Stephen C. Anco, Construction of locally-symmetric Lagrangian field theories from variational identities (27–50); Ian M. Anderson, Introduction to the variational bicomplex (51–73); J. A. de Azcarraga, Wess-Zumino terms, extended algebras and anomalies in classical physics (75–98); John C. Baez, Scattering and complete integrability in four dimensions (99–116); David Bao and Tudor Ratiu, A candidate maximal torus in infinite dimensions (117–123); John K. Beem and Andrzej Krolak, Censorship, null geodesics and strong visibility (125–128); J. David Brown and James W. York, Jr., Quasilocal energy in general relativity (129–142); John Cameron and Vincent Moncrief, The reduction of Einstein’s vacuum equations on spacetimes with spacelike $U(1)$ -isometry groups (143–169); M. Carfora and A. Marzuoli, Finiteness theorems in Riemannian geometry and lattice quantum gravity (171–211); Paolo Casati, Franco Magri and Marco Pedroni, Bi-Hamiltonian manifolds and τ -function (213–234); Piotr T. Chrusciel, On uniqueness in the large of solutions of Einstein’s equations (“strong cosmic censorship”) (235–273); Manuel de Leon, Maria Herminia Mello and Paulo R. Rodrigues, Reduction of degenerate nonautonomous Lagrangians (275–305); L. A. Dickey, On exactness of the variational bicomplex (307–315); C. Duval and J. Elhadad, Geometric quantization and localization of relativistic spin systems (317–330); Arthur E. Fischer, Riemannian maps between Riemannian manifolds (331–366); Mark J. Gotay and Jerrold E. Marsden, Stress-energy-momentum tensors and the Belinfante-Rosenfeld formula (367–392); Marc Henneaux, On the use of auxiliary fields in classical mechanics and in field theory (393–401); James Isenberg, Progress on strong cosmic censorship (403–418); C. J. Isham, Loop algebras and canonical quantum gravity (419–437); Takashi Kimura, Prequantum BRST cohomology (439–457); Yvette Kosmann-Schwarzbach, Jacobian quasi-bialgebras and quasi-Poisson Lie groups (459–489); A. Lichnerowicz, Deforma-

tions and quantum statistical mechanics (491–501); R. Loll, Canonical and BRST-quantization of constrained systems (503–530); Luca Lusanna, Classical observables of gauge theories from the multitemporal approach (531–549); J. Monderde and J. Munoz Masque, Variational problems on graded manifolds (551–571); D. J. Saunders, The regularity of variational problems (573–593); Jim Stasheff, Homological (ghost) approach to constrained Hamiltonian systems (595–609); C. G. Torre, A deformation theory of self-dual Einstein spaces (611–624); G. M. Tuynman, What are the rules of the game called BRST? (625–633); James T. Wheeler, $SU(3) \times SU(2) \times U(1)$: the residual symmetry of conformal gravity (635–644).

{Most of the papers are being reviewed individually.}