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Nota di contenuto	On some problems associated with the foundation of statistical mechanics -- Regrüssungsansprache zur 6th international conference on mathematical physics Berlin 1981 -- Periodicity and the onset of chaos -- Lorentz gas and random walks -- The Kosterlitz-Thouless transition -- Mechanical models of Brownian motion -- Goldstone theorem in statistical mechanics -- Some inequalities related to roughening -- Self-diffusion as an example for the hydrodynamic limit -- Geometric analysis of ϕ^4 fields and Ising models -- Some topics in quantum field theory -- What is the state space of quantum electrodynamics? -- Results and problems near the interface between statistical mechanics and quantum field theory -- A renormalization group based convergent expansion for a class of massless lattice models -- Phase diagrams for low temperature $p(\phi)^2$ quantum field models -- Covariant representations of massless fermi fields -- Singularities in fluid dynamics -- The boost problem -- Singularities, cauchy horizons and extensions of a large class of Einstein-Maxwell spacetimes -- Asymptotic structure in general relativity -- Yang-mills

theory in a multiply connected three space -- Recent developments in supergravity -- Bragg scattering from point interactions: An explicit formula for the reflection coefficient -- Stability of molecular eigenstates -- Description of the semiclassical limit of quantum mechanics in terms of diffusion processes -- Algebraic approach to some propagation properties of the Schrodinger equation -- Scattering theory for time-dependent Hamiltonians -- How do eigenfunctions decay? The case of N-body quantum systems -- Geometric methods in quantum many-body problem -- Almost periodic Schrödinger operators: A review -- Scattering theory for obstacles with infinite boundaries -- Experimental tests of Bell's inequalities -- Mathematical structure of orthodox quantum theory and its relation to operationally definable physical principles -- Connections of different approaches to the foundation of quantum mechanics based on a description of preparing and recording of microsystems -- What is wrong in Orthodox Quantum Theory -- Parallel session on the foundations of quantum mechanics -- Parallel session on the foundations of quantum mechanics -- Integrable systems in multidimensional spaces -- Ordinary differential equations and the symmetric eigenvalue problem -- Theory of ? functions in integrable systems -- The Kirchhoff type equations and multivalued functionals -- Singularities of solutions of semilinear wave equations -- New results for classical gauge theories: Qualitative and exact -- Lattice gauge theory -- Some applications of functional integration -- Stochastic jump processes in the phase space representation of quantum mechanics -- Applications of jump processes to quantum mechanics and relativistic bose field theory -- Quantum stochastic processes -- Generalized brownian functionals -- A cameron-martin formula for feynman integrals (The origin of the Maslov indices) -- Instanton gas parameters in the double well model -- Scattering theory and automorphic functions -- Extensions of unitary irreducible representations of poincare group. Application to quantum field theory -- Nonlinear group representations and applications to nonlinear equations -- Supersymmetry, supergravity and geometry -- Deformation theory applied to quantization and group representations -- Conformal invariance IN (gauge) quantum field theory -- On the representations of the group diffeomorphisms and the local current algebra -- Presentation of the contributions in group theory at this conference -- Generalized gauge theories and the constituents of massless particles -- Symmetry in condensed matter physics -- Singular unitary representations and indefinite harmonic theory -- Schrödinger operators with almost periodic potential: An overview -- A note on non-linear aspects of QFT -- Locality and the structure of particle states in gauge field theories -- Modular automorphisms of local algebras in quantum field theory -- The Search for Quantum Differential Geometry -- On the spectrum of schrödinger operators with a random potential -- Localization : Physical picture and exact results -- Diffusion in one-dimensional lattice systems with random transfer rates -- Edward's model for long polymer chains -- On the status of QCD -- Some advances and problems in classical general relativity -- From general relativity to quantum gravity.
