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| Nota di contenuto | Contents -- Introduction -- Conference Participants -- Part I. Geometric-Analytic Methods -- Stability of Poisson-Hamilton equilibria -- Stability of rigid body motion using the energy-Casimir method -- Stability of planar multifluid plasma equilibria by Arnold's method -- Canonical derivation of the Vlasov-Coulomb noncanonical Poisson structure -- Reduction and Hamiltonian structures on duals of semidirect product Lie algebras -- Gauged Lie-Poisson structures -- The Hamiltonian structure of the BBGKY hierarchy equations -- Particle and bracket formulations of kinetic equations -- Noncanonical Hamiltonian field theory and reduced MHD -- Geometry and guiding center motion -- Lie-transform derivation of the gyrokinetic Hamiltonian system -- Poisson structures for relativistic systems -- Diffeomorphism groups, semidirect products and quantum theory -- Part II. Analytic and Numerical Methods -- Contour dynamics for two dimensional flows -- On the nonlinear stability of circular vortex patches -- Vortex methods for fluid flow in two or three dimensions -- Hamiltonian perturbation theory and water waves -- Results on |

existence and uniqueness of solutions to the Vlasov equation -- Remarks on collisionless plasmas -- Toward a new kinetic theory for resonant triads -- A spectral method for external viscous flows -- Forecasting the ocean's weather: numerical models for application to oceanographic data -- Part III. Bifurcation and Dynamical Systems -- Geometry and dynamics in experiments on chaotic systems -- Dimension estimates for attractors -- Solitary waves as fixed points of infinite-dimensional maps in an optical bistable ring cavity -- Hopf bifurcation and the beam-plasma instability -- Some remarks on chaotic particle paths in time-periodic, three-dimensional swirling flows -- A universal transition from quasi-periodicity to chaos -- On the nonpathological behavior of Newton's method -- Successive bifurcations in the interaction of steady state and Hopf bifurcation -- Convection in a rotating fluid layer.