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Nota di contenuto	Preface by G.-Q. Chen, H. Holden, K. H. Karlsen -- B. Andreianov: Semigroup Approach for Conservation Laws with Discontinuous Flux -- F. Betancourt, R. Bürger, R. Ruiz-Baier, H. Torres, C. A. Vega: On Numerical Methods for Hyperbolic Conservation Laws and Related Equations Modeling Sedimentation of Solid-liquid suspensions -- L. Caravenna: SBV Regularity Results for Solutions to 1D Conservation Laws -- N. Chemetov, W. Neves: Generalized Buckley-Leverett System. - G.-Q. Chen, M. Slemrod, D. Wang: Entropy, Elasticity, and the Isometric Embedding Problem: $M^3 \rightarrow \mathbb{R}^6$ -- G.-Q. Chen, W. Xiang: Existence and Stability of Global Solutions of Shock Diffraction Wedges for Potential Flow -- G. M. Coclite, L. di Ruvo, K. H. Karlsen: Some Wellposedness results for the Ostrovsky-Hunter Equation -- M. Ding, Ya. Li: An Overview for Piston Problems in Fluid Dynamics -- D. Donatelli, P. Marcati: Quasineutral Limit for the Navier-Stokes-Fourier-

Poisson System -- H. Frid: Divergence-Measure Fields on Domains with Lipschitz Boundary -- T. Karper, A. Mellet, K. Trivisa: On Strong Local Alignment in the Kinetic Cucker-Smale Model -- D. Serre: Multi-Dimensional Systems of Conservation Laws. An Introductory Lecture -- B. Stevens: The Nash-Moser Iteration Technique with Application to Characteristic Free-Boundary Problems.

Sommario/riassunto

This book presents thirteen papers, representing the most significant advances and current trends in nonlinear hyperbolic conservation laws and related analysis with applications. Topics covered include a survey on multidimensional systems of conservation laws as well as novel results on liquid crystals, conservation laws with discontinuous flux functions, and applications to sedimentation. Also included are articles on recent advances in the Euler equations and the Navier-Stokes-Fourier-Poisson system, in addition to new results on collective phenomena described by the Cucker-Smale model. The Workshop on Hyperbolic Conservation Laws and Related Analysis with Applications at the International Centre for Mathematical Sciences (Edinburgh, UK) held in Edinburgh, September 2011, produced this fine collection of original research and survey articles. Many leading mathematicians attended the event and submitted their contributions for this volume. It is addressed to researchers and graduate students interested in partial differential equations and related analysis with applications. .
