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Note generali	"This book grew out of a series of lectures at the Technische Universitat Berlin held by young mathematicians from France ... during the academic years 2007-2009."--Pref.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Frontmatter -- Table of contents -- S. N. Kruzhkov's lectures on first-order quasilinear PDEs -- Adaptive semi-Lagrangian schemes for Vlasov equations -- Coupling of a scalar conservation law with a parabolic problem -- Standing waves in nonlinear Schrödinger equations -- Multiscale methods coupling atomistic and continuum mechanics: some examples of mathematical analysis -- Maximal regularity and applications to PDEs -- Backmatter
Sommario/riassunto	This text contains a series of self-contained reviews on the state of the art in different areas of partial differential equations, presented by French mathematicians. Topics include qualitative properties of reaction-diffusion equations, multiscale methods coupling atomistic and continuum mechanics, adaptive semi-Lagrangian schemes for the Vlasov-Poisson equation, and coupling of scalar conservation laws.