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Descrizione fisica	1 online resource (XIV, 231 p. 29 illus., 20 illus. in color.)
Collana	Tutorials, schools, and workshops in the mathematical sciences
Disciplina	516.36
Soggetti	Geometry, Differential Differential equations
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Poisson and Symplectic Structures, Hamiltonian Action, Momentum, and Reduction -- Notes on Tractor Calculi -- Symmetries and Integrals -- Finite Dimensional Dynamics of Evolutionary Equations with Maple -- Critical Phenomena in Darcy and Euler Flows of Real Gases -- Differential Invariants for Flows of Fluids and Gases.
Sommario/riassunto	This volume presents lectures given at the Wisa 19 Summer School: Differential Geometry, Differential Equations, and Mathematical Physics, which took place from August 19 - 29th, 2019 in Wisa, Poland, and was organized by the Baltic Institute of Mathematics. The lectures were dedicated to symplectic and Poisson geometry, tractor calculus, and the integration of ordinary differential equations, and are included here as lecture notes comprising the first three chapters. Following this, chapters combine theoretical and applied perspectives to explore topics at the intersection of differential geometry, differential equations, and mathematical physics. Specific topics covered include: Parabolic geometry Geometric methods for solving PDEs in physics, mathematical biology, and mathematical finance Darcy and Euler flows of real gases Differential invariants for fluid and gas flow Differential Geometry, Differential Equations, and Mathematical Physics is ideal for graduate students and researchers working in these areas. A basic understanding of differential geometry is assumed.

