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| 1. Record Nr. | UNINA9910392742703321 |
| Titolo | New Trends and Results in Mathematical Description of Fluid Flows // edited by Miroslav Bulíek, Eduard Feireisl, Milan Pokorný |
| Pubbl/distr/stampa | Cham : , : Springer International Publishing : , : Imprint : Birkhäuser, , 2018 |
| ISBN | 3-319-94343-X |
| Edizione | [1st ed. 2018.] |
| Descrizione fisica | 1 online resource (XI, 181 p. 20 illus., 15 illus. in color.) |
| Collana | Neas Center Series, , 2523-3343 |
| Disciplina | 620.106 |
| Soggetti | Partial differential equations Partial Differential Equations |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di contenuto | An Introduction to Stochastic Navier-Stokes Equations -- Some Concepts of Generalized and Approximate Solutions in Ideal Incompressible Fluid Mechanics Related to the Least Action Principle -- Quantitative regularity estimates for compressible transport equations -- Fully Resolved Compressible Two-Phase Flow: Modelling, Analytical and Numerical Issues. |
| Sommario/riassunto | The book presents recent results and new trends in the theory of fluid mechanics. Each of the four chapters focuses on a different problem in fluid flow accompanied by an overview of available older results. The chapters are extended lecture notes from the ESSAM school "Mathematical Aspects of Fluid Flows" held in Kácov (Czech Republic) in May/June 2017. The lectures were presented by Dominic Breit (Heriot-Watt University Edinburgh), Yann Brenier (École Polytechnique, Palaiseau), Pierre-Emmanuel Jabin (University of Maryland) and Christian Rohde (Universität Stuttgart), and cover various aspects of mathematical fluid mechanics – from Euler equations, compressible Navier-Stokes equations and stochastic equations in fluid mechanics to equations describing two-phase flow; from the modeling and mathematical analysis of equations to numerical methods. Although the chapters feature relatively recent results, they are presented in a form accessible to PhD students in the field of mathematical fluid mechanics. |

