

1. Record Nr.	UNINA9910552743303321
Autore	Rieutord Michel
Titolo	Fluid Dynamics : An Introduction // by Michel Rieutord
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-09351-7
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (XVI, 508 p. 124 illus., 10 illus. in color.)
Collana	Graduate Texts in Physics, , 1868-4513
Disciplina	532.05
Soggetti	Fluids Astrophysics Fluid mechanics Geophysics Fluid- and Aerodynamics Astrophysics and Astroparticles Engineering Fluid Dynamics Geophysics/Geodesy
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	The foundations of fluid mechanics -- The static of fluids -- Flow of Perfect Fluids -- Flows of incompressible viscous fluids -- Waves in Fluids -- Flows Instabilities -- Thermal Convection -- Rotating Fluids -- Turbulence -- Magnetohydrodynamics -- Beyond Fluid Mechanics -- Complements of mathematics -- The solutions of exercises.
Sommario/riassunto	This book is dedicated to readers who want to learn fluid dynamics from the beginning. It assumes a basic level of mathematics knowledge that would correspond to that of most second-year undergraduate physics students and examines fluid dynamics from a physicist's perspective. As such, the examples used primarily come from our environment on Earth and, where possible, from astrophysics. The text is arranged in a progressive and educational format, aimed at leading readers from the simplest basics to more complex matters like turbulence and magnetohydrodynamics. Exercises at the end of each chapter help readers to test their understanding of the subject (solutions are provided at the end of the book), and a special chapter is

devoted to introducing selected aspects of mathematics that beginners may not be familiar with, so as to make the book self-contained.

---