1. Record Nr. UNINA9910895432703321

Titolo	Journal of mother and child : JMC / Institute of Mother and Child
Pubbl/distr/stampa	Warsaw, Poland, : De Gruyter Poland, [2020]-
Descrizione fisica	Online-Ressource
Disciplina	610
Soggetti	Zeitschrift
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Periodico

2. Record Nr. UNINA9910300149803321

Autore	Langlois William E
Titolo	Slow Viscous Flow / / by William E. Langlois, Michel O. Deville
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2014
ISBN	3-319-03835-4
Edizione	[2nd ed. 2014.]
Descrizione fisica	1 online resource (XV, 324 p. 133 illus., 7 illus. in color.) : online resource
Disciplina	004.0151
Soggetti	Approximation theory Applied mathematics Engineering mathematics Computer science - Mathematics Mathematical physics Approximations and Expansions Applications of Mathematics Computational Mathematics and Numerical Analysis Computational Science and Engineering Theoretical, Mathematical and Computational Physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Cartesian Tensors -- The Equations of Viscous Flow -- Curvilinear Coordinates -- Exact Solutions to the Equations of Viscous Flow -- Pipe Flow -- Flow Past a Sphere -- Plane Flow -- Rotary Flow -- Lubrication Theory -- Introduction to the Finite Element Method -- Variational Principle, Weak Formulation and Finite Elements -- Stokes Ow and Corner Eddies -- References -- Index.
Sommario/riassunto	Leonardo wrote, 'Mechanics is the paradise of the mathematical sciences, because by means of it one comes to the fruits of mathematics' ; replace 'Mechanics' by 'Fluid mechanics' and here we are." - from the Preface to the Second Edition Although the exponential growth of computer power has advanced the importance of simulations and visualization tools for elaborating new models, designs and technologies, the discipline of fluid mechanics is still large, and turbulence in flows remains a challenging problem in classical physics. Like its predecessor, the revised and expanded Second Edition of this book addresses the basic principles of fluid mechanics and solves fluid flow problems where viscous effects are the dominant physical phenomena. Much progress has occurred in the nearly half a century that has passed since the edition of 1964. As predicted, aspects of hydrodynamics once considered offbeat have risen to importance. For example, the authors have worked on problems where variations in viscosity and surface tension cannot be ignored. The advent of nanotechnology has broadened interest in the hydrodynamics of thin films, and hydromagnetic effects and radiative heat transfer are routinely encountered in materials processing. This monograph develops the basic equations, in the three most important coordinate systems, in a way that makes it easy to incorporate these phenomena into the theory. The book originally described by Prof. Langlois as "a monograph on theoretical hydrodynamics, written in the language of applied mathematics" offers considerable new coverage including the second principle of thermodynamics, Boussinesq approximation, time dependent flows, Marangoni convection, Kovasznay flow, plane periodic solutions, Hele-Shaw cells, Stokeslets, rotlets, finite element methods, Wannier flow, corner eddies, and analysis of the Stokes operator.