1. Record Nr. UNINA9910300549603321

Autore	Benacquista Matthew J
Titolo	Classical Mechanics / / by Matthew J. Benacquista, Joseph D. Romano
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-68780-8
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (XVII, 546 p. 160 illus.)
Collana	Undergraduate Lecture Notes in Physics, , 2192-4791
Disciplina	531
Soggetti	Mechanics Physics Classical Mechanics Mathematical Methods in Physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Elementary Newtonian mechanics -- Principle of virtual work and Lagrange's equations -- Hamilton's principle and action integrals -- Central force problems -- Scattering -- Rigid body kinematics -- Rigid body dynamics -- Small oscillations -- Lagrangian and Hamiltonian formulations for continuous systems and fields -- Special relativity -- A Vector calculus -- B Differential forms -- C Calculus of variations -- D Linear algebra -- E Special functions.
Sommario/riassunto	This textbook provides an introduction to classical mechanics at a level intermediate between the typical undergraduate and advanced graduate level. This text describes the background and tools for use in the fields of modern physics, such as quantum mechanics, astrophysics, particle physics, and relativity. Students who have had basic undergraduate classical mechanics or who have a good understanding of the mathematical methods of physics will benefit from this book.