1. Record Nr. UNINA9910746972803321

Autore	Sinha Rajnikant
Titolo	Advanced Newtonian Rigid Dynamics / / by Rajnikant Sinha
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2023
ISBN	981-9920-22-1
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (620 pages) : illustrations (black and white, and color)
Disciplina	531.3
Soggetti	Gravitation Newtonian Physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1. 3-D Kinematics of Rigid Bodies -- Chapter 2. D'Alembert's Principle -- Chapter 3. Momental Ellipsoid -- Chapter 4. Motion About a Fixed Axis -- Chapter 5. Motion in Two Dimensions (Finite Forces) -- Chapter 6. Impulsive forces -- Chapter 7. Motion in Three Dimensions -- Chapter 8. Conservation Principles of A.M. and Energy.
Sommario/riassunto	This book discusses topics on D'Alembert's principle, virtual work, Eulerian angles, Lagrange's equation in generalized coordinates and motion of a top. Momental ellipsoid of a point of a rigid body and conservation principle of angular momentum are discussed in detail. This is an essential textbook on Newtonian rigid dynamics, useful for advanced undergraduate and graduate students of physics, mathematics and engineering. This book contains solutions to more than 350 examples as well as more than 350 figures, which are nicely explaining the concept of rigid dynamics. Necessary mathematics have been created at the spot where they are needed. .