1. Record Nr. UNINA9910640389703321

Autore	Jazar Reza N.
Titolo	Advanced Vibrations : Theory and Application / / by Reza N. Jazar
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2022
ISBN	9783031163562 9783031163555
Edizione	[2nd ed. 2022.]
Descrizione fisica	1 online resource (894 pages)
Disciplina	620.3
Soggetti	Multibody systems Vibration Mechanics, Applied Solids Mechanics Mechanical engineering Multibody Systems and Mechanical Vibrations Engineering Mechanics Solid Mechanics Classical Mechanics Mechanical Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Part 1. Vibration Fundamentals -- 1. Vibration Kinematics -- 2. Vibration Dynamics -- Part 2. Time Response -- 3. One Degree of Freedom -- 4. Multi Degrees of Freedom -- 5. First-Order Systems -- Part 3. Frequency Response -- 6. One Degree of Freedom Systems -- 7. Multi Degrees of Freedom Systems -- 8. Two Degrees of Freedom Systems.
Sommario/riassunto	Now in an updated new edition, this textbook explains mechanical vibrations concepts in detail, concentrating on their practical use. This second edition includes the new chapter Multi-Degree-of-Freedom (MDOF) Time Response, as well as new sections covering superposition, music and vibrations, generalized coordinates and degrees-of-

freedom, and first-order systems. Related theorems and formal proofs are provided, as are real-life applications. Students, researchers, and practicing engineers alike will appreciate the user-friendly presentation of a wealth of topics, including practical optimization for designing vibration isolators and transient and harmonic excitations. Advanced Vibrations: Theory and Application is an ideal text for students of engineering, designers, and practicing engineers. Contains unique material based on statement-proof-examples; Derives equations of motion using Newton-Euler and Lagrange methods; Presents optimization of vibrating systems not normally covered in standard vibration books. Advanced Vibrations: Theory and Application is an ideal text for students of engineering, designers, and practicing engineers.