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ISBN	3-319-27131-8
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (243 p.)
Disciplina	620
Soggetti	Machinery Automotive engineering Mathematical models Machinery and Machine Elements Automotive Engineering Mathematical Modeling and Industrial Mathematics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Fundamentals of Rolling Bearings -- Design of Rolling Bearings -- Contact Stresses in Rolling Bearings -- Oil-Film Thickness in Rolling Bearings -- Tribology of Rolling Bearings -- Lifetimes of Rolling Bearings -- Reliability Probability with Weibull Distribution -- Bearing Friction and Failure Mechanisms -- Rotor Balancing and NVH in Rolling Bearings.
Sommario/riassunto	This book comprehensively presents the computational design of rolling bearings dealing with many interdisciplinary difficult working fields. They encompass elastohydrodynamics (EHD), Hertzian contact theory, oil-film thickness in elastohydrodynamic lubrication (EHL), bearing dynamics, tribology of surface textures, fatigue failure mechanisms, fatigue lifetimes of rolling bearings and lubricating greases, Weibull distribution, rotor balancing, and airborne noises (NVH) in the rolling bearings. Furthermore, the readers are provided with hands-on essential formulas based on the up-to-date DIN ISO norms and helpful examples for computational design of rolling bearings. The topics are intended for undergraduate and graduate

students in mechanical and material engineering, research scientists, and practicing engineers who want to understand the interactions between these working fields and to know how to design the rolling bearings for automotive industry and many other industries.