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Altri autori (Persone)	CoutuAndre SickMirjam
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Nota di contenuto	1.Basic Concepts -- 2.Low-frequency phenomena in swirling flow -- 3. Periodic effects of runner-casing interaction -- 4.High-frequency vortex phenomena -- 5.Cavitation-related phenomena -- 6.Stability-related unsteady phenomena -- 7.Model tests, techniques and results -- 8.Selected field experience -- 9.Practical Guidelines.
Sommario/riassunto	Since the 1970’s, an increasing amount of specialized research has focused on the problems created by instability of internal flow in hydroelectric power plants. However, progress in this field is hampered by the inter-disciplinary nature of the subject, between fluid mechanics, structural mechanics and hydraulic transients. Flow-induced Pulsation and Vibration in Hydroelectric Machinery provides a compact guidebook explaining the many different underlying physical mechanisms and their possible effects. Typical phenomena are described to assist in the proper diagnosis of problems and various key strategies for solution are compared and considered with support from practical experience and real-life examples. The link between state-of the-art CFD computation and notorious practical problems is

discussed and quantitative data is provided on normal levels of vibration and pulsation so realistic limits can be set for future projects. Current projects are also addressed as the possibilities and limitations of reduced-scale model tests for prediction of prototype performance are explained. Engineers and project planners struggling with practical problems will find Flow-induced Pulsation and Vibration in Hydroelectric Machinery to be a comprehensive and convenient reference covering key topics and ideas across a range of relevant disciplines.