



Stability of Rotor-Bearing-Seal Systems

By Ugur Yücel

VDM Verlag Jul 2009, 2009. Taschenbuch. Book Condition: Neu. 220x153x18 mm. Neuware - In various industrial applications, there is a need for higher speed, yet reliably operating rotating machinery. A key factor in achieving this type of machinery continues to be the ability to accurately predict the dynamic response and stability of a rotor-bearing-seal system. In operation, the rotor undergoes bending and torsional vibration. The vibration of a rotor depends upon its geometry and type of support, as well as on the excitation forces. One of the most important sources for excitation is the flow through labyrinth seals. The gas flow through the seals, primarily intended for leakage control in turbines, creates net pressure and shear forces acting on the rotor. It is necessary to predict these forces exactly for reliably operating turbomachines. This book, therefore, provides theoretical investigation of the gas flow in straight-through labyrinth seals and its effect on the stability of the rotor. In addition, stability of rotor-bearing systems is given to introduce and explain the nature of rotordynamic phenomena from comparatively simple analytical models. This book will no doubt be of value to graduate students and researchers in engineering and applied sciences. 168 pp. Englisch.



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