International Journal of Rotating Machinery

Hindawi

Special Issue on

Special Phenomena and Unconventional Design in Fluid-Film Bearings

CALL FOR PAPERS

Although fluid-film bearings are widely installed in rotating machines, the rotating machines sector is reluctant to changes in bearing technology because of economic losses resulting from a possible malfunction of a new type of bearing.

The improvement in performance of the machine given by a new bearing is often demonstrated through highly complex mathematical models. However, the experimental validation is very often required but this implies expensive and complex test benches.

Even in applications with standard bearings, malfunctions may occur due to operating conditions and phenomena that have not been properly considered and modeled in the design phase.

This special issue is intended to present and discuss both modeling and experimental results regarding special phenomena and unconventional designs of fluid-film bearings.

Potential topics include but are not limited to the following:

- Case histories of bearing faults
- Identification of bearing faults
- New and unconventional bearing design
- Nonlinear effects
- Thermal effects
- High speed and very low Sommerfeld number operating conditions
- Devices for the reduction of vibration
- Magnetorheological bearings
- New trends in automotive turbochargers bearings

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