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Numerical Study of Thermal Effects in the Hydrodynamic Behavior of Textured Journal Bearings

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Abstract : The journals bearing characteristics with texture presence on the bearing surface are investigated. The thermal effect has been studied. The used numerical approach in this analysis is Finite Difference Method. The textured bearing performance enhancement passes essentially by a minimum film thickness and a friction torque improvement through an appropriate surface texture geometry and right texture distribution on the bearing surface. It is found that the simulation results are in good concordance with those issued from the litterature. The obtained results by considering the temperature effect are more realisti

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