

# The texture effect on the static characteristics of hydrodynamic journal bearings

**N. Tala-ighil, A. Brick Chaouche, A. Mokhtari**

**Abstract :** Understanding the influence of surface texturation on journal bearing performances inevitably involves experimental investigations pending being followed by a numerical modeling of the problem. This work consists to model and to understand the evolution of journal bearing characteristics with and without presence of textures on the bearing surface. The numerical approach based on the finite difference method is used in this analysis. The results of our simulations are in good agreement with those obtained experimentally by Xiaobin.

**Keywords :** Cavitation, friction, hydrodynamics, Journal bearings, lubrication, numerical analysis, surface texture, Thin films, tribology