

Accepted Manuscript

Stochastic dynamic behaviour of hydrodynamic journal bearings including the effect of surface roughness

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PII: S0020-7403(17)31952-5
DOI: [10.1016/j.ijmecsci.2018.04.012](https://doi.org/10.1016/j.ijmecsci.2018.04.012)
Reference: MS 4265



To appear in: *International Journal of Mechanical Sciences*

Received date: 17 July 2017
Revised date: 10 March 2018
Accepted date: 7 April 2018

Please cite this article as: K. Maharshi , T. Mukhopadhyay , B. Roy , L. Roy , S. Dey , Stochastic dynamic behaviour of hydrodynamic journal bearings including the effect of surface roughness, *International Journal of Mechanical Sciences* (2018), doi: [10.1016/j.ijmecsci.2018.04.012](https://doi.org/10.1016/j.ijmecsci.2018.04.012)

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Highlights

- A practically relevant in-depth analysis on the stochastic dynamic behaviour of hydrodynamic journal bearings is presented.
- The individual as well as compound effect of stochasticity arising due to the random variation of eccentricity ratio and roughness parameter are accounted in the analysis.
- An efficient radial basis function based Monte Carlo simulation framework is developed for the probabilistic analyses of different crucial performance parameters of the hydrodynamic journal bearing.
- Relative sensitivity to stochasticity for different performance parameters is analyzed.

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