

Accepted Manuscript

Finite element analysis for a functionally graded rotating shaft with multiple breathing cracks

Debabrata Gayen , D Chakraborty , Rajiv Tiwari

PII: S0020-7403(17)31680-6
DOI: [10.1016/j.ijmecsci.2017.10.027](https://doi.org/10.1016/j.ijmecsci.2017.10.027)
Reference: MS 3993



To appear in: *International Journal of Mechanical Sciences*

Received date: 21 June 2017
Revised date: 27 September 2017
Accepted date: 18 October 2017

Please cite this article as: Debabrata Gayen , D Chakraborty , Rajiv Tiwari , Finite element analysis for a functionally graded rotating shaft with multiple breathing cracks, *International Journal of Mechanical Sciences* (2017), doi: [10.1016/j.ijmecsci.2017.10.027](https://doi.org/10.1016/j.ijmecsci.2017.10.027)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Highlights

- Finite element formulation for dynamic characteristics of FG shafts with multiple breathing cracks is developed.
- Whirl frequencies and critical speeds of a rotor-bearing system with multiple cracked FG shaft depend on power law gradient.
- In an FG shaft, power law gradient could be decided to minimize the undesirable effects in the event of multiple breathing cracks appearing during service.

ACCEPTED MANUSCRIPT

Download English Version:

<https://daneshyari.com/en/article/7174014>

Download Persian Version:

<https://daneshyari.com/article/7174014>

[Daneshyari.com](https://daneshyari.com)