



# International Journal on Recent Researches In Science, Engineering & Technology

(Division of Mechanical Engineering)

A Journal Established in early 2000 as National journal and upgraded to International journal in 2013 and is in existence for the last 10 years. It is run by Retired Professors from NIT, Trichy. It is an absolutely free (No processing charges, No publishing charges etc) Journal Indexed in JIR, DIIF and SJIF.

Research Paper

Available online at: [www.jrrset.com](http://www.jrrset.com)

ISSN (Print) : 2347-6729

ISSN (Online) : 2348-3105

Volume 5, Issue 6,  
June 2017

JIR IF : 4.334

DIIF IF : 1.46

SJIF IF : 1.329

---

## Dynamic Modeling Of Gear Teeth

Dr. S.Peter and R.Prabakaran

### Abstract

This paper details extensive work on dynamic modeling of gear teeth and developed empirical mode of decomposition based statically analysis for early detection of defects like pitting, strength failure etc. The gear dynamic models are very useful for early detection of defects like pitting, spalling, crack and broken teeth. The models developed by the authors incorporated the effects of time-varying mesh stiffness and damping. Based on their experimental work and test results the following are the conclusions drawn by the authors. Although experimental and numerical results look promising, the proposed vibration signature methodology has to be tested on the other test rig also. More work is also required on the simulation of tooth faults by varying defect width in both directions.