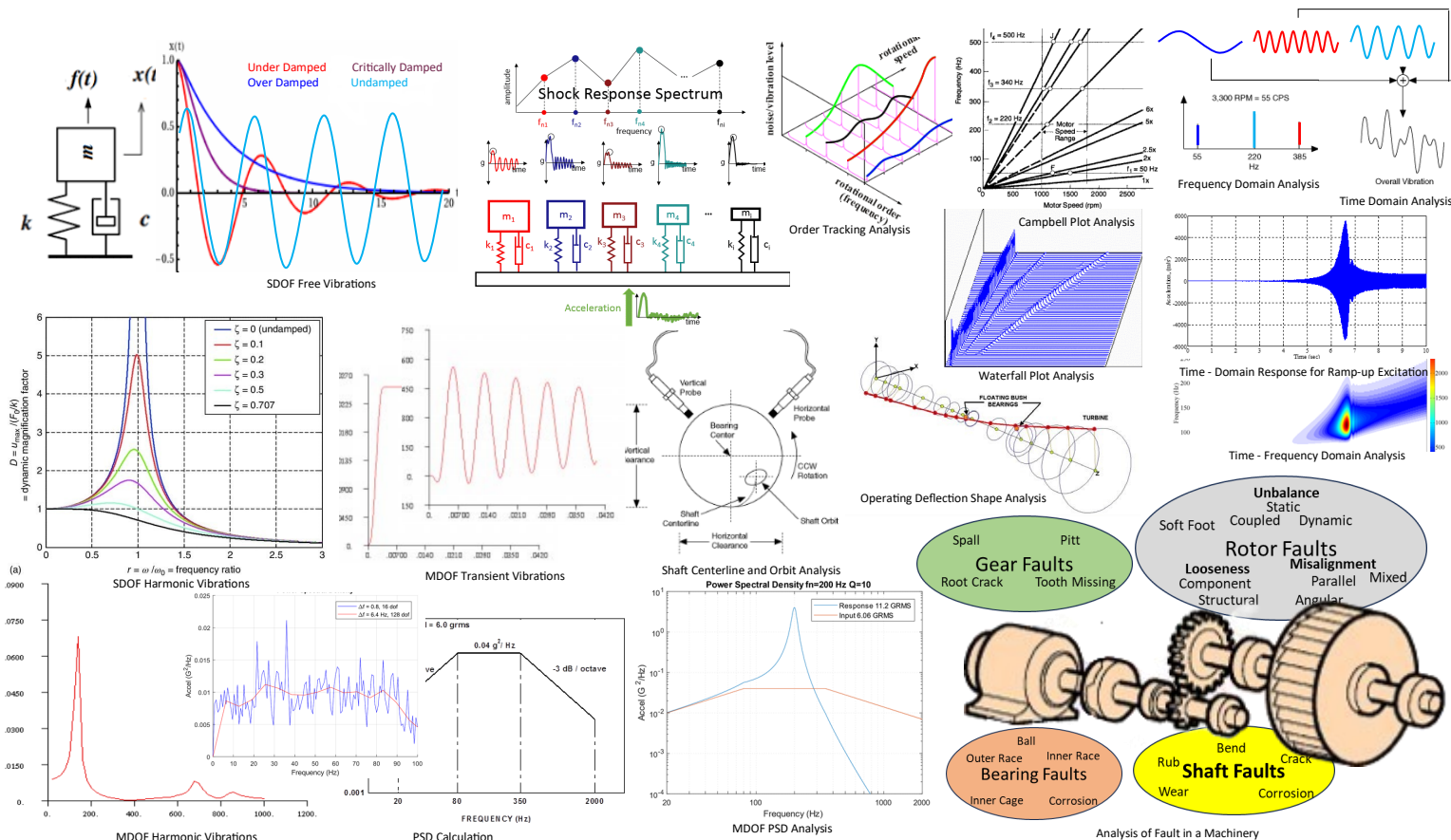




IIAS

Indian Institute for Autonomous Systems

ONE-DAY WORKSHOP ON MACHINERY VIBRATIONS



Workshop Details

- Schedule and Type:** Oct. 11, 2026, Sunday; Instructor led interactive + demo + QA
- Workshop Duration:** 5 Hours, online, 1 day
- Conduction Mode:** Online:10:00 AM-5:00 PM with a half an hour break for each one hour session
- Attendee Background:** Mechanical, Automotive and Aerospace
- Instructors:** Dr. Prashanth Dalawai
- Registration via Email:** info@iias-uv.in
- Registration Deadline:** Oct. 10, 2026

Workshop Objective

Vibration analysis often demands extensive mathematical modelling and theoretical treatment. However, practicing engineers primarily need to adopt appropriate models/resolution, select the best solvers/filters, interpret vibration data/plots from software, identify the underlying causes, to translate the results into practical engineering solutions without undergoing the mathematics.

This workshop is specifically designed for practicing engineers, with emphasis on practical vibration analysis, result interpretation, identification of machinery faults, and implementation of corrective measures which should appeal to industry engineers. Mathematical treatment will be kept to a minimum and introduced only where necessary to support practical understanding and engineering decision-making.

IIAS training division offers an advanced training program and workshop by providing both theoretical, computational and hands-on testing foundations and real-world case studies on automotive, aerospace and heavy engineering machinery. These programs concentrate more on the faster adaptation of technology to the respective industries and reduce the training curve. This workshop is designed carefully to give the essential fundamentals as well as practical implementation skills through real case studies. The instructor has three decades of experience in designing a variety of products for NVH in industry and teaching vibration/design courses.

Workshop Content

Analysis of Machinery Vibrations:

Duration (Hrs.):05

Sl.	Topic	Time
1	Fundamentals of Vibration: Sources and causes of vibration. Periodic, random, transient and harmonic vibration. Time, frequency and -Time-frequency domain representation. Natural frequency and resonance. ISO standard for machinery vibrations.	10:00AM
2	Vibration in Engineering Systems: Single and multi-degree-of-freedom systems – basic concepts. Procedure for modal, transient, harmonic, response spectrum and random vibration analysis. Results interpretation. Case studies.	11:00AM
3	Vibration Measurement: Vibration sensors, sensor selection, mounting, measurement locations and directions. Data acquisition systems. Signal processing. Practical measurement considerations. Case studies.	12:00PM
4	Time, Frequency and Time-frequency Domain Vibration Analysis: Time waveform interpretation, Statistical indicators, Identifying impact and transient events. FFT and spectrum, Order analysis, Waterfall and Campbell plots, Interpreting frequency spectra, spectrogram and scalogram. Case studies.	03:00PM
5	Machinery Vibration Analysis: Common faults in a machinery and their symptoms - bearing, shaft, rotor, gear, structural vibration and resonance vibration analysis. Case studies.	04:00PM

Contact Us

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