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Vibration analysis leading into diagnosis (valid) approach

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Vibration-based Condition Monitoring (VCM) is generally used in industries to predict fault(s) at early stage in any machine so that the maintenance can be performed before any catastrophic failure. However the question always arises whether the VCM alone in a machine is enough? Answer is generally yes if the failure is not frequent and premature. But if the failure is premature and frequent then the experience shows that the routine VCM alone may not be sufficient. For such cases, it is observed that the dynamics of the complete machine unit comprises of the rotor, bearings and foundation is responsible for such premature and frequent failure. Hence additional tests and analysis are required to understand the machine dynamic behavior which can then leads to solution. The topic will discuss few industrial case studies to show the usefulness of valid approach.

Biography:

Dr. Jyoti K. Sinha is Programme Director, Reliability Engineering and Asset Management (REAM) MSc and Head, Dynamics Laboratory, School of Mechanical, Aerospace and Civil Engineering, The University of Manchester, UK.Dr Sinha has been extensively involved in many industrial projects (nearly £3M) related to Vibration-based Condition Monitoring and Maintenance of Machines and Structures in last 27 years.

Dr Sinha is the author of more than 225 publications (Journals, conferences, books, edited book/conference proceedings and technical reports) and gave a number of keynote/invited lectures. Dr Sinha is the associate editor of two international journals and the editorial board member of two journals.Dr Sinha has started a series of an International Conference of Maintenance Engineering (Income) and the Journal of Maintenance Engineering (JoME) from August 2016. He is also technical committee member of IFTOMM Rotordynamics. Recently he is appointed as the British Standard Institute (BSI) Member and involved in reviewing ISO codes related to Machine Vibration.