

A generic approach in vibration-based condition monitoring

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Vibration-based condition monitoring (VCM) of rotating machines is well-known and adopted in industries. The objective of the VCM generally predicts fault(s) at early stage so that the maintenance can be performed before any catastrophic failure. These practices generally avoid machine downtime, maintenance overhead and maintain the plant safety. The data collection and signal processing required in the VCM is now much easier due to a number of technology advancements in instrumentations and signal processing capabilities over 2-3 decades. However even with advancements in the technologies, the historical vibration data from a machine on a foundation are found to be difficult to apply directly for the faults identification in identical machines but installed on different foundation layouts. It is generally due to different dynamic behaviour of the identical machines resulting from different foundation layouts. Hence a generic approach is required to meet this objective. The paper presents such approach developed on a rig but supported through different foundations.

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.