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Using specialized sensing technologies for machinery condition based monitoring (CBM) or predictive maintenance (PdM) has long been documented as a beneficial part of a machinery reliability strategy. According to MaintenanceBenchmarking.com, world class companies often devote up to 50 percent of their entire maintenance resources to condition based monitoring and the planned work that is required as a result of the findings.

Although there are a number of technologies that should be part of any CBM program, vibration analysis is the most predominant for maintaining and troubleshooting rotating equipment. Vibration analysis resources on the web are hard to find using search engines as all the commercial resources are getting top billing. I have compiled some vibration resources on the Internet that range from full blown online training to pages that include links to other vibration analysis resources.

Training resources

www.VibrationSchool.com offers vibration analysis training on the web so you can access the lessons on your personal computer any time of the day or night. The site plans on offering live, web-based, and instructor-led courses in 2004.

VibrationSchool.com also offers an active e-mail discussion forum that allows you to share your experiences, ask questions, or simply sit back and read as hundreds of your peers discuss many of the same issues you face and share solutions that you can use. The forum is noncommercial and list members have no patience for vendors pitching products or services. The VibeTalk e-mail forum explores all types of machinery condition monitoring issues and technologies including vibration, ultrasound, infrared, motor testing, and oil analysis. To join send an e-mail to vibetalk-request@vibrationschool.com and type subscribe in the subject line.

The Vibration Institute web site also includes a threaded vibration analysis discussion board in addition to many other resources and links.

The SVD Classroom offers a suite of vibration and signal processing educational courses.

The site includes more than a dozen Flash movies that stream easily over a 56k or faster Internet connection.

Brüel & Kjær offers live instructor-led, one-hour training on the web at no cost for subjects like modal analysis, transducers, and FFT analysis basics.

There are also two excellent tutorials “Introduction to Vibration Analysis” and “Time Waveform Analysis” at RCM-1.com. These programs require a media player for narration playback.

Articles, case histories, book excepts, and a Vibration Analysis IQ Quiz can be accessed at the Reliabilityweb.com vibration analysis knowledge base .

Software

SIGVIEW is complete real-time spectral analysis software with a wide range of powerful FFT spectral analysis tools, statistics functions, and comprehensive visualization system. SIGVIEW is distributed as shareware—you can download a completely functional version and use it for 21 days to find out if it is the right solution for you. If you decide to use it after that period, you must purchase a SIGVIEW license for $79. With its unique user interface and philosophy, SIGVIEW gives you freedom to combine different signal analysis methods in any possible way; there are no artificial rules and limitations. Once you get the basics, everything else follows the same logic.

Visit www.vibronurse.com for artful vibration humor and utilities, balancing calculators, and free downloads.

Link sites

www.vibrate.net is another useful site dedicated to vibration analysis resources.

M AINTENANCE T ECHNOLOGY publishes a comprehensive suppliers guide online and offers a literature request service at

The future

You can get a glimpse into the future of vibration analysis and condition based monitoring at the Center for Intelligent Maintenance Systems and from the CBM Lab at the University of Toronto. Both of these sites may seem academic at first glance but digging deeper for serious research and application information will be worthwhile.
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Internet Tip

Add your favorite e-mail newsletters to your approved list if you use a spam filter to make sure that you do not eliminate sources of new ideas and information for maintenance improvements.