



# Tip Of The Week

January 16, 2012

## Current Demodulation for Fan and Pump Analysis

Fan blades and centrifugal pump vane frequencies can be monitored in a demodulated current spectrum at a frequency that is equal to the number of blades (or vanes) times the pole pass frequency (FP). Increasing amplitude at this frequency as well as a possible increase at the motor speed frequency peak is an indication of possible blade or pump vane damage. After initial installation or verification that the pump or fan is in satisfactory condition, identify the vane frequency and record the amplitude of the peak. With baseline amplitude for the equipment established, the demodulated current spectrum is used as a simple and efficient method to monitor the equipment.

Excerpt from the *Fault Zone Analysis - Identifying Motor Defects Using The Rotor Fault Zone* article located at:  
<http://www.pdma.com/PdMA-articles.php>

You are invited to submit an Electric Motor Testing Tip of your own and receive a free PdMA mug or hat if we publish it! Contact Lou at 813-621-6463 ext. 126 or [lou@pdma.com](mailto:lou@pdma.com).

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