

Vibration Measurements and FE Modeling, Tools in Root Cause Analysis (I.)

Zlatan Racic
Z-R CONSULTING
5698 So. Meadow Park Drive
Hales Corners, WI 53130

ABSTRACT

A bearing damage had occurred during balancing of a generator rotor in high speed balancing facility. Analysis of findings from vibration measurements data, together with FE modeling and dynamic analysis of the rotor lead to the conclusion that rotor had undergone runout changes as a result of dynamic bending conditions that affected the coupling hub, which was shrunk onto the main rotor shaft as a part of previous repair and salvaging the rotor. The bearing wipes occurred as a result of the bending modes generated by the change in coupling conditions at second and third critical speeds