Abstracts

Novel microwave vibration monitoring system for industrial power generating turbines

M. Wagner, A. Schulze, M. Vossick, C. Stephelbauer, R. Weigel, N. Vortmeyer and P. Heide. "Novel microwave vibration monitoring system for industrial power generating turbines." 1998 MTT-S International Microwave Symposium Digest 98.3 (1998 Vol. III [MWSYM]): 1211-1214.

A novel microwave sensor system for real-time monitoring of turbine blade vibrations is reported. The self-calibration of the sensor modules, a key feature of the implemented concept, is based on adaptive frequency tuning of the microwave source. By using this calibration, degradation of the measurement performance caused by temperature drift and dirt deposit is compensated. During pilot runs with a 65 MW gas turbine the microwave system proved to give excellent measurement results.

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