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THE SPECTRAL CONTENT OF THE TORQUE LOADS ON A TURBINE GEAR TOOTH[1]

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ABSTRACT [1]

The torque loads on two classes of wind turbine gearboxes are analyzed using a time-at-torque technique and a rainflow counting technique to determine the cyclic loads on the gear teeth. The two techniques are compared and contrasted to one another using representative samples of the time histograms from a Micon 65 and the Sandia/DOE Test Bed wind turbines. To place these differences in perspective, Miner's Rule is used to determine the damage produced by each of the distributions. The damage analyses illustrate that the differences in the distributions are minimal.

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