Abstract

This paper presents a new technique to diagnose differentially two localized gear tooth faults: a pitting and a crack. These faults could have very different prognoses, but existing diagnostic techniques only indicate the presence of local tooth faults without being able to differentiate between a pitting and a crack. In the aim to diagnose differentially these tow faults, a dynamic model of one stage spur gear is proposed witch make it possible to simulate the effect of pitting and crack faults on the vibration signal. Then, simulated vibration signal is analyzed by using a Fast-Kurtogram technique. This method is suitable for differentiate between a pitting and a crack faults