Abstract

Conventional methods (i.e. time and frequency analysis) can routinely be used to reveal gear fault-indicating information in the current signal. In recent years, Wavelet analysis, which can lead to a clear identification of the nature of faults, are widely used to describe rotating machine condition. The Capability of this method in the detection of any abnormality can be further improved when its low-order frequency moments are considered. This paper presents the use of the Fast Kurtogram in the early detection and condition monitoring of crack fault. For this purpose, a dynamic model of an electromechanical system which is a simple stage gearbox (with and without gear defect) driven by a three phase induction machine is developed. Then motor stator current is analyzed by using a Fast Kurtogram method. This method is suitable for such diagnosis and gives valuable information about the presence and effects of the crack tooth defect