

Rolling-element bearing is one of the crucial mechanical components in induction motors. Since, its fault may produce huge damage; the way to efficiently diagnose the bearing faults is a high issue in signal processing, and its fault detection draw an important significance. In this paper, a hybrid method based on Empirical Wavelet Transform and S Transform has been proposed in order to detect the outer race bearing fault in an induction motor using vibration signals. As the collected signals are disturbed by noise, EWT is used to filter the raw signals in conjunction with isolating the region containing fault characteristic frequencies. Then ST is used to represent an Amplitude-Frequency and a Time-Frequency contour of the filtered signals, which allow to detect the bearing fault. Finally, experimental vibration data have been investigated to assess the reliability of the developed method. The results obtained show a good performance