Abstract

Wavelet Transform is a mathematical tool for time frequency analysis of non stationary signals like the current waveform in electric traction system. The locomotives used in traction system have different types of traction motors –dc and three phase ac motors with different methods of speed control. Hence technologies will be different depending on the type of locomotives. The nature of the load in electric traction system is very dynamic due to the acceleration, constant speed operation and deceleration of the locomotives. Due to the variation in the type and running pattern of locomotives harmonics induced into the system varies with time. In this paper, wavelet transform is applied to find out the total harmonic distortion of the measured current from a traction substation. Also a comparison is made by applying discrete Fourier transform to the instantaneous values of measured current.

References

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**Index Terms**

Computer Science  Signal Processing

**Keywords**

Electric traction  locomotive  harmonics  wavelet transform