ARTICLE IN PRESS

Alexandria Engineering Journal (2021) xxx, xxx–xxx

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Alexandria Engineering Journal

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A novel approach to compare the spectral densities of some uncorrelated cyclostationary time series

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Received 17 December 2019; revised 10 September 2021; accepted 16 September 2021

KEYWORDS

Comparison;
Cyclostationary;
Periodically correlated;
Spectral density;
Hypothesis testing

JEL CLASSIFICATION

62M10;
62M15;
62F03;
62G07;
62G20;
62P20

Abstract Our primary objective in this article is to compare the spectral densities of some cyclostationary time series. By using the limiting distributions of the discrete Fourier transform, a novel approach is introduced to determine whether the spectral densities of some uncorrelated cyclostationary time series are the same or not. Also, the ability of the proposed technique is examined by employing simulated and real datasets.

1. Introduction

Comparison of several processes is a main subject in economics, physics, chemistry, signal processing and hydrology. Really, the researchers try to compare the stochastic mechanism of some observed datasets from different time series.

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Peer review under responsibility of Faculty of Engineering, Alexandria University.

https://doi.org/10.1016/j.aej.2021.09.047
1110-0168

Please cite this article in press as: M.R. Mahmoudi et al., A novel approach to compare the spectral densities of some uncorrelated cyclostationary time series, Alexandria Eng. J. (2021), https://doi.org/10.1016/j.aej.2021.09.047