Accepted Manuscript

Variance change point detection for fractional Brownian motion based on the likelihood ratio test

Daniel Kucharczyk, Agnieszka Wyłomańska, Grzegorz Sikora

PII: S0378-4371(17)30869-5
DOI: http://dx.doi.org/10.1016/j.physa.2017.08.134
Reference: PHYSA 18580

To appear in: *Physica A*

Received date : 28 December 2016
Revised date : 22 June 2017

Please cite this article as: D. Kucharczyk, A. Wyłomańska, G. Sikora, Variance change point detection for fractional Brownian motion based on the likelihood ratio test, *Physica A* (2017), http://dx.doi.org/10.1016/j.physa.2017.08.134

***Highlights (for review)**

Highlights:

- Variance change point analysis of fractional Brownian Motion is proposed
- The variance change point analysis is based on the likelihood ratio test
- The obtained results are consistent with the well-known results for Brownian motion
- Performance of the proposed method for time series with short-memory (H < 0.5) is very good
- Perfromance of the proposed method declines for time series with long-memory (H>0.5)