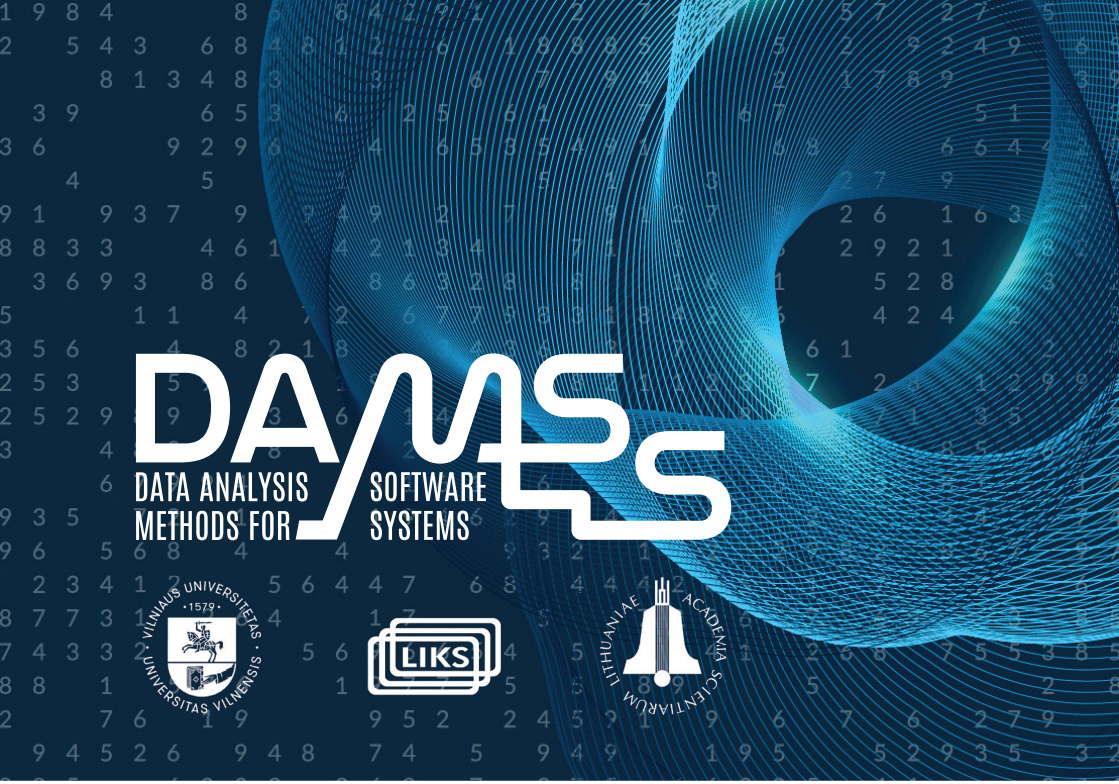

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Cointegration of Functional Time Series

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Cointegration is a method used to estimate the existence of a long-term equilibrium relationship between two or more time series. While this method is widely utilized for traditional time series, some research is still needed to make cointegration fully usable in the context of functional time series (FTS). Such progress could provide new applications in different fields, from finance and economics to natural sciences. Even though the tests for stationarity or unit root of functional time series are well-defined, with some of them practically implemented, cointegration tests are mostly in the theoretical development phase. It is an active field of research with contributions from M. Franchi and P. Paruolo (2020), M. Ø. Nielsen, W.-K. Seo and D. Seong (2023), W.-K. Seo (2024) and others. This poster presentation provides an overview of the literature about integration (different stationarity and unit root tests) and cointegration testing for functional time series. Furthermore, some examples of real-world data suitable for FTS cointegration testing are provided. In addition, the poster introduces some studies of cointegration testing on traditional time series in the field of natural sciences.

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