

Abstract Submitted
for the NWS11 Meeting of
The American Physical Society

Markov-Binary Visibility Graph: A New Method for Analyzing Time Series YASER SADRA, Corresponding Author, SODYIF AHADPOUR, ZAHRA ARASTEH FARD, Co-author — We introduce a new and simple transformation from time series to complex networks based on markov-binary visibility graph(MBVG). Due to the simple structure of this transformation in comparison with other transformations be obtained more precise results. Moreover, several topological aspects of the constructed graph, such as degree distribution, clustering coefficient, and mean visibility length have been thoroughly investigated. Numerical simulations confirm the reliability of markov-binary visibility graph for time series analysis. This algorithm have the capability of distinguishing between uncorrelated and correlated systems.

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Date submitted: 18 Sep 2011

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