

Master Class - Complex Time Series Modelling



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The possibility to represent time series as complex networks has attracted much attention in the last decade. In a complex network, the entities describing a complex system are represented as nodes, and edges define the intrinsic relationship among interconnected entities. We have investigated that the patterns of these interactions can bring insights into the dynamical properties of the studied system. This idea has been extensively applied to social systems. Lately, it has also been applied to time series data - a complex network can be constructed from a time series to create a template or represent the shape of that time series. On that idea, many network representations of time series have been proposed which, from different perspectives, try to capture the essential information about the system.

In this master class, we will review some of these representations and see how the structural properties of the networks can be used to characterise dynamic aspects of the time series.