



Non-linear time series analysis of precipitation events using regional climate networks for the region of Germany

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Knowledge about the spatiotemporal occurrence of precipitation events is of great interest. A vast number of decisions rely to a great extend on this knowledge. Ranging from agricultural decisions to ones regarding insurances. However it is often only for smaller regions feasible to study high density data sets. Here we study precipitation events using the non-linear measure event synchronization. The spatial synchronization structure is used as a climate network and analyzed as such. Using network measures that are corrected for boundary effects and irregular sampled nodes in space, we can detect interesting spatial synchronization patterns of precipitation events as well as their temporal evolution.