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Complex Networks in Climate Dynamics

J. Kurths, J. Donges, N. Marwan, and Y. Zou

Potsdam Institute for Climate Impact Research, P.O. Box 601203, 14412 Potsdam, Germany

Complex network theory provides a powerful framework to statistically investigate the topology of local and non-local interrelationships, in particular teleconnections in the climate system. We extract such a complex network from global climate data sets (AOGCM and reanalysis data sets) by using nonlinear mutual information and betweenness centrality. It is shown that this approach offers new perspectives on nonlinear mechanisms in the climate systems which is of high relevance for forecasts.

References

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