



Inferring long memory processes in the climate network via nonlinear time series analysis

Cristina Masoller (1), Marcelo Barreiro (2), and Arturo Marti (2)

(1) Universitat Politècnica de Catalunya, Terrassa, Barcelona, Spain (cristina.masoller@gmail.com), (2) Facultad de Ciencias, Universidad de la República, Montevideo, Uruguay

We use ordinal patterns and symbolic analysis to construct global climate networks and uncover long and short term memory processes. The data analyzed is the monthly averaged surface air temperature (SAT field) and the results suggest that the time variability of the SAT field is determined by patterns of oscillatory behavior that repeat from time to time, with a periodicity related to intraseasonal oscillations and to El Niño on seasonal-to-interannual time scales.