Geophysical Research Abstracts,
Vol. 11, EGU2009-13294, 2009
EGU General Assembly 2009

Assessing parameter stationarity for a multifractal cascade model of atmospheric processes in Mexico City

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As an increasing number of studies have shown over the last few years that the turbulent atmospheric cascades, comprising their tracers, extend in the temporal domain up to scales that have no Taylorian spatial equivalent, and since the multifractal measures resulting from such cascades are intrinsically non-stationary, it becomes interesting to investigate the parametric stationarity of such a model in atmospheric time series, in order to test the hypothesis of climate-scale changes. The present work evaluates the stationarity of multifractal parameters for a rainfall time series from Mexico City at different time scales, which could be indicative of changes reaching from global to spatially-microclimatic.