



Assessment of correlations and crossover scale in electroseismic time series

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Evaluating complex fluctuations in electroseismic time series is an important task not only for earthquake prediction but also for understanding complex processes related to earthquake preparation. Previous studies have reported alterations, as the emergence of correlated dynamics in geoelectric potentials prior to an important earthquake (EQ). In this work, we apply the detrended fluctuation analysis and introduce a statistical procedure to characterize the presence of crossovers in scaling exponents, to analyze the fluctuations of geoelectric time series monitored in two sites located in Mexico. We find a complex behavior characterized by the presence of a crossover in the correlation exponents in the vicinity of a $M=7.4$ EQ occurred on Sept. 14, 1995. Finally, we apply the t-student test to evaluate the level of significance between short and large scaling exponents.