



## **Complexity in sequences of solar flares, earthquakes, and starquakes**

V. G. Kossobokov (1), **F. Lepreti** (2,3), and V. Carbone (2,3)

(1) International Institute of Earthquake Prediction Theory and Mathematical Geophysics, Russian Academy of Sciences, Russian Federation, (2) Dipartimento di Fisica, Università della Calabria, Italy, (3) Consorzio Nazionale Interuniversitario per le Scienze Fisiche della Materia (CNISM), Unità di Cosenza, Italy

The statistical properties of solar flares and earthquakes are compared by analyzing the energy distributions, the time series of energies and inter-event times, and, above all, the distributions of inter-event times per se. The inter-event time distribution of a sequence of soft  $\gamma$ -ray flashes generated by “starquakes” is also considered. It is shown that the three phenomena have different scaling, and even the same phenomenon, when observed in different periods or at different locations, is characterized by different statistics that cannot be uniformly rescaled onto a single, universal curve. The results indicate apparent complexity of impulsive energy release processes, which neither follow a common behaviour nor could be attributed to a universal physical mechanism.