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Natural time analysis of experimental data of a spring-block system

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A simple qualitative analogous of a seismic fault model is the known 'spring-block system'. In this research we use the experimental data of this system to make a statistical analysis in the natural time domain, which is an important tool to obtain relevant information hidden in time series of complex systems. We found the scaled probability density of the experimental data collapse on a universal curve with non-Gaussian tails, as was previously observed in some studies of seismic catalogues done by Varotsos and coworkers. The analysis of the statistical features of the order parameter (OP) allows to show that the spring-block system verify the same statistical behavior of that observed in natural seismic fault systems.