

EGU2020-7482

<https://doi.org/10.5194/egusphere-egu2020-7482>

EGU General Assembly 2020

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## Statistical significance of the precursory minima of the order parameter fluctuations of seismicity by modern methods of Statistical Physics

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An order parameter for seismicity was introduced in the frame of natural time analysis [1]. Recent studies of the fluctuations of this order parameter revealed the existence of minima preceding major earthquakes [2-7]. Here, we review the statistical significance of these minima by using recent methods of Statistical Physics, such as receiver operating characteristics [8] and event coincidence analysis [9,10]. These methods are also applied to the investigation [11] of the statistical significance of Seismic Electric Signals [12].

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