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Aspects of seismic risk assessment in the frame of a non-extensive approach

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Seismic risk assessment is mainly estimated on the basis of scale-invariant (fractal) statistics of earthquakes, although their fractal character may be hidden behind the logarithmic definition of earthquake magnitude, leading to a power-law size distribution, where earthquake sizes are measured in terms of released energy.

In the present work some aspects of seismic risk assessment are discussed in the frame of the non-extensive model for earthquakes introduced by Silva et al., (Physical Review E, 73, 026102, 2006) and Sotolongo-Costa and Posades (Phys. Rev. Lett., 92, 048501, 2004). In the frame of this approach the role of the minimum and maximum event size and a fractal generalization of scale between earthquake energy and size of fragment is given.

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