



On the fluctuation spectra of seismo-electromagnetic phenomena

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In order to increase the credibility on the presence of electromagnetic phenomena associated with an earthquake, we have suggested the importance of the modulation (or fluctuation) seen in the time-series data of any seismogenic effects. This paper reviews the fluctuation spectra of seismogenic phenomena in order to indicate the modulation mechanisms in the lithosphere, atmosphere and ionosphere/magnetosphere. Especially, the effect of Earth's tides in the lithosphere and the modulation in the atmosphere (acoustic and atmospheric gravity waves) are discussed, and this kind of fluctuation spectra would further provide essential information on the generation mechanisms of different seismogenic effects. Further, the important role of the slope of fluctuation spectra is suggested in order to investigate the self-organized criticality before the lithospheric rupture and its associated effects in different regions such as the ionosphere.