

Diurnal periodicity of earthquakes in Southern California

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Abstract. The diurnal periodicity of earthquakes is studied using a catalog of local earthquakes in Southern California where a dense seismic network is operated at present. We formed 43 sets of earthquakes of different energy with the known magnitude of completeness for 9 time intervals. The diurnal variation parameters of earthquakes for different magnitude and time intervals were calculated and considered in details. Statistically significant variations in weak earthquake flows were revealed. The diurnal variation amplitude is very high during some time intervals. The diurnal periodicity of strong representative earthquakes was revealed only in a few sets, its amplitude is small.

Keywords: seismicity, Southern California, earthquake catalog, diurnal periodicity.