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Tectonophysical model of the tectonic earthquake focus

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Abstract. Based on the results of physical modeling of the processes of fault zone formation, general regularities of their structural and dynamic development were revealed. These regularities were used as the basis of the author's tectonophysical model of the tectonic earthquake focus, with a precursor resulting from it. Such a precursor is the self-organization of the deformation process of active segments in the focus of an impending earthquake. It was shown that this process can be diagnosed preventively using the deformation and seismic monitoring data and manifests itself in the form of low-frequency self-oscillations immediately before the seismic event in the time interval from the first days to the first hours. The stable manifestation of this precursor allows us to classify it as short-term.

Keywords:

fault zone, segmentation, tectonophysical model, tectonic earthquake focus,

self-organization, precursors

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