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Earthquake predictions in XXI century: prehistory and concepts, precursors and problems

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Abstract. The review presents the most important results of investigations in the field of strong earthquakes predictions, which were published in scientific sources. The ways of further studies of seismic prognosis problem are involved into consideration, as well as the based theoretical model, to improve predictive methods and algorithms. One can follow the research transformation from initial (historical) articulation of this intriguing problem to its current state of the art, including modern approaches based on the data of seismological and geophysical monitoring, and as well as ionospheric and atmospheric surveys. Examples of successful earthquake predictions have been discussed and treated from viewpoint of the potential of used methods, at least for some regions (for example, Sakhalin and Kamchatka). It is assumed that the predictions, which were realized due to certain algorithms and/or working precursors rather than random guessing, are able to weaken the pessimist side in the discussion: are earthquakes predictable or unpredictable in principle.

Keywords:

earthquake, predictive methods, mid-term prediction, short-term prediction,

geophysical, seismological precursors, source-site model, fault

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