

The spatio-temporal scan of LURR in the western United States and its application to predict its seismic tendency

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Abstract

Load-Unload Response Ratio (LURR) is a new approach to earthquake prediction that has shown considerable promise. In previous years a series of successful intermediate-term predictions have been made for strong earthquakes in Chinese mainland and other regions using it. The spatial variation of LURR in the western United States (30 - 50° N, 100 - 130° W) during the duration from 2000 to present has been conducted. Most of the strong earthquakes occurred in the studied region and duration fallen in the LURR anomaly regions. The future earthquake tendency in this region is predicted based on the spatio-temporal scan of LURR .

In addition LURR could be applied not only to natural earthquake prediction but also to forecasting of other geological disasters such as reservoir-induced earthquakes, mine earthquake, rock-burst, landslide, volcano eruption, etc.

Keywords: Load/Unload Response Ratio (LURR); spatio-temporal scan; western United States; seismic tendency.