

**Ability to control the earthquake source activity**

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Besides many anthropogenic disasters of the past century, uncontrolled industrial activity led to an ever increasing number of earthquakes. But the opportunities to impact these changes and to create methods to manage focal processes have been limited due to the absence of a physical parameter that reflects the stress state of the medium and its variations. Our studies revealed an indirect feature that characterizes these changes - microseisms. Detection of their anomalies prior to earthquakes radically changed the development of ideas about the earthquake source and the forms of energy transformation from it, nonlinear character of a number of processes in the lithosphere, and their relations with other earth spheres. It was shown that microseisms carry important information about the processes of earthquake preparation, which can be monitored and impacted, using the energy of the planet, adjusting to it and replicating it. They indicate that the planet is a dynamic object, ever-changing, responsive even to very weak impact, self-restoring and self-regulating. The geophysical studies and experiments were carried out in different regions and allowed making a number of important theoretical and practical conclusions based on new physical ideas.

The steps for managing stress state of the medium include:

- For clarity of experiment selection of foci where earthquakes with  $M \geq 5$  occurred in the previous 3-5 years, with the frequency of their recurrence of 30-50 years or more;
- Geophysical studies of the source area medium's parameters and conducting test impacts to assess its sensitivity;
- Development and implementation of the impact program to enhance the focal activity up to the time of self-excitation mode.

Conducting ground experiments with simultaneous satellite measurements of manifestations, intensities and variations of geophysical fields will allow creating a database for remote evaluation of the state of the medium in various geological conditions.