STUDY OF RELATIONSHIP BETWEEN THE PRESENT-DAY REGIONAL STRESS FIELD WITH FAULT'S GEOMETRIC PARAMETERS DETERMINING THE RELATIVE DISPLACEMENT OF THE EARTH'S CRUST IN THE SOUTH CHINA SEA AND ADJACENT AREAS

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In this paper, the present-day regional stress field in the South China Sea is determined through the earthquake's focal mechanism parameters that have recorded more than 100 years. The geometric parameters of the faults (such as the location, dip angle, strike angle as well as depth, length and horizontal destructive zone) are determined by gravity, seismic data and regional stress fields.

Here, predictive study of the magnitude and tendency of the relative displacement of the Earth's crust are carried out by calculating and assessing the relationship between the regional stress fields with fault geometric parameters. On the basis of the Earth's crust relative displacement, the geodynamics mechanism can be rebuilt through different geological periods in the South China Sea and adjacent areas.

Magnitude and tendency of the relative displacement of the Earth's crust are represented by the color spectrum and the vector's magnitude. Although the displacement appears in the whole of the region, they have different intensity in particular areas with different grade fault systems.

Keywords: **South China Sea, faults, present-day regional stress field, Earth's crust displacement.**