Interplate coupling deduced from inversion analysis of GPS data

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In this study, we used data of horizontal and vertical movements which were observed at GPS continuous observation stations throughout the Japanese islands of the Geographical Survey Institute of Japan.

Considering the three-dimensional configurations of the upper surfaces of the subducted oceanic plates beneath northeast and southwest Japan a semi-infinite homogeneous perfect elastic body. We constructed model source regions on which slips are allowed, assuming.

We obtained spatial distribution of strength of interplate coupling and relative plate motion between subducting and overriding plates in both regions from inversion analysis of geodetic data, using ABIC (Akaike's Bayesian Information Criterion).