

Earthquake forecasting system based on sequential data assimilation of the slip on the plate boundary

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We are constructing an earthquake forecasting system based on sequential data assimilation of the slip on the plate boundary. We use SIS, a kind of particle filter for the data assimilation. The forward calculation is done using earthquake generation cycle simulation. From the simulation results, we estimate crustal deformation that can be compared to the observation of GEONET on land and DONET on the seafloor. We demonstrate numerical test of this system using synthetic data of seafloor deformation before virtual Tonankai or Nankai earthquakes. We also use real data set of GEONET to compare the results of earthquake generation cycles.