Three dimensional velocity field of eastern Shikoku, southwest Japan determined from GPS data

Yusaku Ohta[1], Takao Tabei[1], Manabu Hashimoto[2]

[1] Natural Environmental Sci., Kochi Univ., [2] RCEP., DPRI., Kyoto Univ

We determine three-dimensional velocity field of the eastern Shikoku, southwest Japan using GPS campaign data. New phase center variation table for the GPS receiver antenna is used to process all data from 1998 to 2001. Horizontal station velocities show crustal shortening in the direction of the plate convergence and slight right-lateral motion along the Median Tectonic Line. The most characteristic result in this study is the vertical velocity field. The southern tip of Shikoku show the largest subsidence at a rate of 5.8mm/yr. Velocity gradually decreased to the north and turns to the uplift further inland. The subsidence-uplift pattern is in good accordance with the leveling survey result and inversely correlated with the coseismic deformation at the time of interplate great earthquake.