Re-estimation of Postseismic Slip Region of the 2000 Western Tottori Earthquake

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The 2000 Western Tottori earthquake occurred after the various observation networks were developed, and brought many new insights about the earthquake process. Using GPS data, Sagiya et al. (2002, zisin) estimated a fault model of the main shock. Nishiwaki and Sagiya (2005, AGU) and Kawakata et al. (2007, JPGU) suggested strain rate anomaly preceding the main shock. As for postseismic change, Hashimoto et al. (2003, SSJ) estimated a fault model, and Kawamoto et al. (2004, JPGU) carried out an FEM simulation. However, the models could not reproduce the observed data well because of a small amount of displacement. On the other hand, postseismic changes of some baseline vectors between two nearby points across the rupture zone of main shock were clearly different from coseismic changes. We focused on this point, and estimated a fault model for postseismic slip, using the baseline vectors between two nearby points. We used GEONET GPS data (F2 solution) by GSI, and assumed the pure strike-slip on ten fault segments by Sagiya et al. (2002). Displacements at all sites by unit slip of each fault element were calculated with MICAP-G (Yoshikawa and Naito, 1999) a priori, and linear inversion was performed. The postseismic slip was estimated to be dominant in the northern segments (˜10 cm in two weeks, and ˜20 cm in two months) and also found in a southern segment, which was different from coseismic slip distribution.