Postseismic deformation monitoring of the 2008 Mw7.9 Wenchuan earthquake using GPS


We synthesize GPS data observed from a continuous array and monitor postseismic deformation of the 2008 Mw7.9 Wenchuan, China earthquake. The array is composed of three networks. Two of the networks, preexisted before the quake, are located in the northwest Sichuan basin and along the central Xianshuihe fault respectively. They are 16 sites in total, and have had continuous postseismic data recordings since the occurrence of the quake. The third network is composed of more than 20 sites, and was deployed in the vicinity of the seismogenic fault within 1.5 months after the quake. Preliminary analysis of the postseismic data reveals that: (a) Postseismic deformation is significant, up to a couple of centimeters for stations located within tens of kilometers from the seismogenic fault. (b) Postseismic deformation is unevenly distributed across the fault: It is significantly larger and decays much slower in the hanging-wall northwest of the fault than in the footwall southeast of the fault. (c) Deformation was fast for the initial 50 days of the quake, and tapered down slowly afterwards. In the meeting we will
give an updated report about the spatio-temporal postseismic deformation pattern, and our primary interpretation of deformation mechanisms.