To Measure the deformation field of several seismic faults in Western China and analyze the kinematics feature

Jingfa Zhang\(^{(1)}\), Zhoushu Zhang\(^{(2)}\), Wanpeng Feng\(^{(1)}\), Lixia Gong\(^{(1)}\), Jan–Peter Muller\(^{(3)}\), and Zhenhong Li\(^{(3)}\)

\(^{(1)}\) Institute of Crustal Dynamics, CEA, Box 2855, Beijing, 100085, Beijing, China
\(^{(2)}\) Tibet Earthquake Administration, Postbox 2855, Beijing, 100085, Beijing, China
\(^{(3)}\) Department of Geomatic Engineering, University Col, University College London, Gower Street, London WCIE 6BT, United Kingdom

Abstract

Mani, Lazi and Dangxiong are selected as test areas in this paper to study the earthquakes in Western China. Traditional InSAR technique and PS InSAR technique are both used in measuring coseismic deformation of several strong earthquakes and long–time slow movement of several seismic faults since 1993. On the above basis, the key technique and main influencing factors are summarized, especially the effect of man–made corner reflectors in measuring long–time slow fault movement. Besides, InSAR results from several strong earthquakes are used for epicenter modeling. The precise deformation measurements from InSAR may be used as a restriction to inverse epicenter model parameters. The result of long time slow movement from several seismic fault are used in the analyses of fault movement pattern and seismic pregnant procedure.