Abstract

The absolute fault displacement in co-seismic deformation is derived assuming that location, depth, faulting mechanism and magnitude of the earthquake are known. The 2008 Wenchuan earthquake (M8.0) is used as an example to determine the distribution of seismic intensities using absolute displacement and a crustal model. We find that an early prediction of the distribution of seismic intensities after a large earthquake may be performed from the estimated absolute co-seismic displacements using known information from distant stations. Early information on intensities may be vital in disaster evaluation and emergency response after a disastrous event, such as the 2008 Wenchuan earthquake in China.

Keywords

Wenchuan M8.0 earthquake, co-seismic deformation, absolute displacement, seismic intensity.