

## **InSAR Error Analysis in Monitoring Coseismic Deformation of 2008 Damxung Mw 6.3 Earthquake**

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The Damxung Mw6.3 earthquake occurred in Damxung area of the Tibetan Plateau, located at 90.274°E, 29.704°N by USGS on 6 October 2008, which caused great damage in this area. In our work, several ENVISAT ASAR images are processed using JPL/Caltech ROI\_PAC 3.0.1 software to derive the surface deformation caused by the Damxung earthquake.

The major perturbing factor limiting InSAR accuracy in deformation measurements is known to be affected by orbit indetermination (baseline errors), atmospheric propagation and phase unwrapping errors, et al.. A common objective of all InSAR processing schemes is to distinguish the contributions due to the geophysical signals of interest from the above-mentioned error sources. In this paper, we use ENVISAT ASAR data set to investigate the characteristics of orbital and atmospheric errors and phase unwrapping errors in monitoring Damxung earthquake coseismic deformation, then different techniques are applied to remove these major errors. Finally, accurate deformation signal is extract from complex differential interference phase, which can allow us to understand focal mechanism and failure mode as well as post seismic reconstruction in Damxung areas, and consequently, reduce potential damage due to shallow earthquakes.