MEASUREMENT OF LONG TERM DEFORMATION IN THE METRO MANILA, THE PHILIPPINES

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ABSTRACT:

Many ground deformations have been occurred by earthquakes and volcanic activities in the Republic of the Philippines. The monitoring of deformation using InSAR, which is capable to observe a wide area at high spatial resolution, as well as GPS measurement and leveling survey, which are capable to measure the point-based but subtle land displacement less than a centimeter, is actively conducted in this country. The Valley Fault exhibits fault creep. It is a north-south trending active fault in the Metro Manila district, central Luzon. Some buildings and road pavement are damaged by vertical displacement of the ground where the central segment of the fault passes through. Moreover, overpumping of groundwater in the Metro Manila district has occurred huge ground subsidences. The purpose of this study is to investigate the distribution of spatial and temporal change on the earth surface around Metro Manila in the Republic of Philippiness. We measured long-term ground deformation from 2003 until 2010 by means of InSAR using ENVISAT/ASAR and ALOS/PALSAR data.

TOPIC: Microwave remote sensing
ALTERNATIVE TOPIC: Remote sensing applications

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