

MONITORING OF MERAPI VOLCANO DEFORMATION USING INTERFEROMETRY SYNTHETIC APERTURE RADAR (INSAR) TECHNIQUE

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Abstract: The Merapi volcano is the most active volcano in Indonesia until now, because of eruption occur every two or five years. To minimize the impact of volcanic eruptions need to monitor the volcanic activity, one effort in monitoring is to monitor the surface changes (deformation) around the volcano. These surface changes can be monitored with InSAR technique. In this study monitoring by analyzing the Digital Elevation Model (DEM) and displacement map from result processing using InSAR technique. The accuracy of DEM compare with Shuttle Radar Topography Mission (SRTM) DEM. These results showed that after the eruption in 2006 led to the deflation that occurred in 2007. In 2010 after the eruption led to deflation in some areas of Merapi volcano. Whereas in 2008 due to the absence of volcanic activity that occurred then the deformation is not so large changing. Test on the DEM from the process of InSAR compare with SRTM DEM produced an accuracy of 96%.

Keyword: deformation, InSAR, DEM