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Towards a ground truth of North Korean nuclear tests: Satellite Remote Sensing

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The Democratic People's Republic of Korea conducted nuclear explosions in 2016 and 2017. For the first time, radar data based on open and free access data policy from the remote sensing Sentinel 1 satellites with a short revisiting time, Radarsat and ALOS data are being successfully used as additional mean for the verification of underground nuclear explosions. The Differential Interferometry Synthetic Aperture Radar (DInSAR) analysis provide the evidence of a non-recurring surface displacement of up to 12 cm after the explosions about 3 km northwest of the tunnel entrance at the North Korean test site. Furthermore optical satellite data (Pleiades) give evidence for test related landslide activations. The strong spatial and temporal coincidence of all these observations with the seismic hypocenters data suggest correlation with the underground tests.