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PS-InSAR time series analysis as a tool for measuring landslide dynamics

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PS-InSAR analysis is today a widely accepted methodology for the accurate measurement of ground displacements related to processes with slow kinematics, such as ground settlement, subsidence, uplift and slow moving landslides.

The advanced use of PS-InSAR information has, however, very promising potential also for the understanding of the landslide behavior in time and to study the correlations between such dynamics and the possible causative factors.

We offer here some examples of PS-InSAR based analysis of displacement time series relative to deep-seated landslides and we discuss the advantages and the possible add-ons offered by the use of techniques based on the automated or semi-automated recognition of deviations from regular, expected trends. We also discuss the new perspectives that will be offered in the next years with the availability of shorter revisiting time space-borne SAR platforms as e.g. TerraSAR-X and COSMO.