

## Detection the landslide deformation using InSAR analysis in the southern Japanese Alps

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It is important to identify the ground deformation areas by landslides for sediment disaster prevention. Since InSAR analysis can investigate surface deformation in wide areas with accuracy of centimeters, it is effective for detecting on actively creeping landslides. Aim of this study is detecting deformation of landslides using ALOS-PALSAR data and verifying the validity of results based on the field survey. We conducted InSAR analysis in the Ikawa district located in the southern Japanese Alps, central Japan. This area has weak geology because of fault belts named Median tectonic line and Itoigawa-Shizuoka tectonic line. A lot of landslides have occurred due to existing steep topography and abundant precipitation (about 3100 mm/year). We compared the results with landslide distribution maps that were constructed by aerial photograph investigations detecting characteristic landslide topographies. As a result, by the InSAR analysis, some displacements of landslide bodies were extracted. We detected cracks in road retaining walls by field survey at displacement points. We also conducted 2.5-dimensional analysis at the areas in which displacement has been observed using images captured on both ascending and descending orbits.

Keywords: landslide, InSAR