A GeoNode-Based Multiscale Platform For Management, Visualization And Integration Of DInSAR Data With Different Geospatial Information Sources

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This work describes the implementation of an efficient system for managing, viewing, analyzing and updating remotely sensed data, with special reference to Differential Interferometric Synthetic Aperture Radar (DInSAR) data. The DInSAR products measure Earth surface deformation both in space and time, producing deformation maps and time series[1,2]. The use of these data in research or operational contexts requires tools that have to handle temporal and spatial variability with high efficiency.

For this aim we present an implementation based on Spatial Data Infrastructure (SDI) for data integration, management and interchange, by using standard protocols[3]. SDI tools provide access to static datasets that operate only with spatial variability . In this paper we use the open source project GeoNode as framework to extend SDI infrastructure functionalities to ingest very efficiently DInSAR deformation maps and deformation time series. GeoNode allows to realize comprehensive and distributed infrastructure, following the standards of the Open Geospatial Consortium, Inc. - OGC, for remote sensing data management, analysis and integration [4,5]. In the current paper we explain the methodology used for manage the data complexity and data integration using the opens source project GeoNode.

The solution presented in this work for the ingestion of DinSAR products is a very promising starting point for future developments of the OGC compliant implementation of a semi-automatic remote sensing data processing chain .

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