Disaster Monitoring using ALOS PRISM and AVNIR-2

Tsuneo Tanaka[1]; Tsutomu Otsuka[1]; Hidekazu Minami[1]; Takuro Matsumoto[1]

[1] GSI

Just after the occurrence of a huge earthquake, it is very hard to identify damaged areas. In order to reduce damages by such a natural disaster, and to quickly start relief works, we developed a method to extract earthquake-damaged areas. We used images from a Japanese satellite ALOS for this work.

The methods consist of: 1) to orient the satellite images taken before and after the disaster each other, and to orient the satellite images to the base maps; and 2) to extract damaged areas through differential operation between the satellite images.

This project is one of the sub-projects of the general research and development project tilted as Development of Land Monitoring Technology for Damage Mitigation using High-Tech Image Processing, being implemented in the years 2007-2009 by the Ministry of Land, Infrastructure, Transport and Tourism.

In the FY 2007, we developed and summarized a method to precisely orient images and to extract the changes in satellite images taken before and after the disaster. In the FY 2008, we developed a method to correctly orient a satellite image with a base map. In this work, we tried to presume a possibility of the occurrence of damage by a disaster in an area where we cannot classify with only the differential operations.