



Rapid detection of technological disasters by using a RST-based processing chain

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Natural disasters may be responsible for technological disasters which may cause injuries to citizens and damages to relevant infrastructures. When it is not possible to prevent or foresee such disasters it is hoped at least to rapidly detect the accident in order to intervene as soon as possible to minimize damages.

In this context, the combination of a Robust Satellite Technique (RST), able to identify for sure actual (i.e. no false alarm) accidents, and satellite sensors with high temporal resolution seems to assure both a reliable and a timely detection of abrupt Thermal Infrared (TIR) transients related to dangerous explosions.

A processing chain, based on the RST approach, has been developed in the framework of the G-MOSAIC project by DIFA-UNIBAS team, suitable for automatically identify on MSG-SEVIRI images harmful events. Maps of thermal anomalies are generated every 15 minutes (i.e. SEVIRI temporal repetition rate) over a selected area together with kml files (containing information on latitude and longitude of “thermally” anomalous SEVIRI pixel centre, time of image acquisition, relative intensity of anomalies, etc.) for a rapid visualization of the accident position even on google earth.

Results achieved in the case of the event occurred in Russia on 10th May 2009 will be presented: a gas pipeline exploded, causing injuries to citizens and a huge damage to a Physicochemical Scientific Research Institute which is, according to official data, an organisation, running especially dangerous production and facilities.