



Robust satellite techniques (RST) for forest fire detection

C. Filizzola (1), F. Marchese (2), G. Mazzeo (2), N. Pergola (1), V. Tramutoli (2)

(1) Institute of Methodologies for Environmental Analysis - National Council of Research, Tito Scalo (PZ) Italy, (2) University of Basilicata, Potenza, Italy

In this work, the RST (Robust Satellite Technique) approach, which has already been successfully applied for the monitoring of major natural and environmental risks, explores MSG-SEVIRI potential for forest fire detection. The RST scheme is based on a multi-temporal analysis of co-located satellite records and on an automatic change detection scheme.

The index of local (in space and time) change, which is at the basis of the classical RST approach, is here integrated with a differential index, computed by using RST prescription as well, which permits us to identify the very start of a forest fire event, exploiting the high temporal repetition of the sensor. A possible real-time implementation of such a scheme will be discussed, analysing its actual potential and its possible contribution to the development of a reliable and efficient early warning system. Moreover, the exportability of this approach (already applied both to polar – e.g. NOAA/AVHRR- and geostationary data – e.g. Meteosat 5, 7, GOES) guarantees its complete applicability to other present or future sensor data.