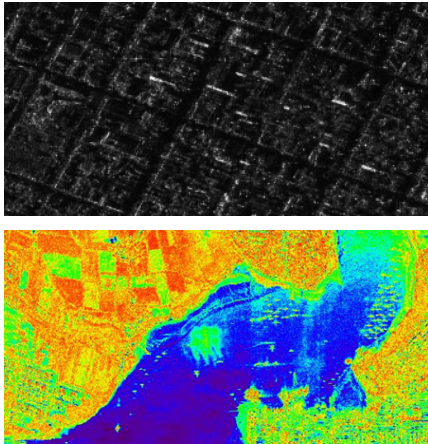


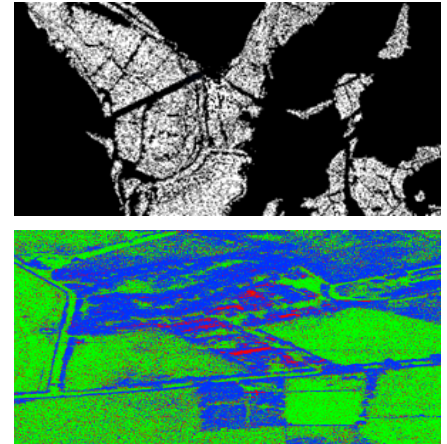
Urban Earthquake Damage Detection with SAR

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Remote Sensing Applications Research Group

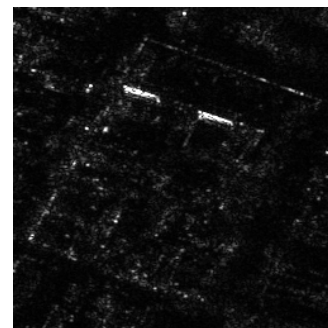
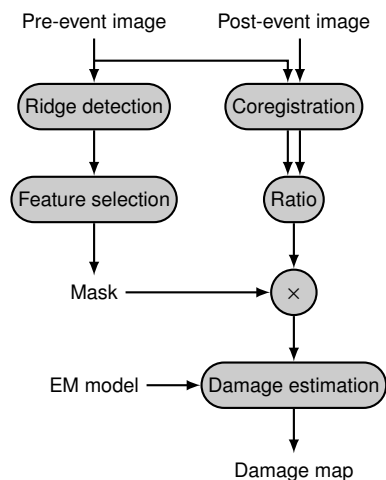


- ▶ Focus on developing new models, tools and applications for remote sensing data.
- ▶ Working closely with industrial partners and in diverse cross- and multi-disciplinary collaborations.
- ▶ Research topics include:
 - ▶ urban monitoring
 - ▶ disaster management
 - ▶ maritime surveillance
 - ▶ monitoring of the natural environment (forest, soils and waterways).
- ▶ Group headed by Dr. Raffaella Guida, with three Ph.D. students.

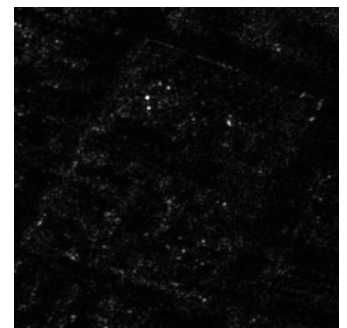


EPSRC DTG Project on Damage Detection

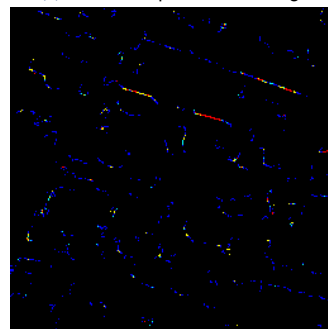
- ▶ Development of a novel method of locating damage sites in cities struck by earthquakes, using a satellite synthetic aperture radar time-series. Aim is to support disaster relief.
- ▶ Secondary aims include improved responsiveness by eliminating manual steps and using parallel algorithms.
- ▶ Complements other research group projects on disaster monitoring, as well as electromagnetic and statistical modelling of urban SAR images.
- ▶ Interest in the approach has been shown by industrial partners, and it forms the basis for proposed FP7 collaborations.



(a) Pre-earthquake SAR image



(b) Post-earthquake SAR image



(c) Pre-earthquake SAR image



(d) Post-earthquake SAR image

Figure: Earthquake-damaged site in Port-au-Prince, Haiti (2010). Optical image © GeoEye 2010. COSMO-SkyMed product © Agenzia Spaziale Italiana 2009-2010. All rights reserved.