Methods - General

Chairmen: Tazio Strozzi and Stefano Tebaldini replacing Urs Wegmuller and Andrea Monti Guarnieri

Tuesday 20/09/2011

15:00-15:20	**Effect of Unmodelled Reference Frame Motion on InSAR Deformation Estimates** *Due to secular tectonic motion the reference frame used for orbit data undergoes a motion with respect to the Earth surface. Such motion causes displacement rate estimation to be biased. Such error can be corrected by accounting for plate velocities, which are available through plate kinematic models.*	**Hermann Bähr**
15:20-15:40	**Revising vegetation scattering theories: Adding a rotated dihedral double bounce scattering to explain cross-polarimetric SAR observations over wetlands** *In this paper it is observed that not only co-polarization, but also cross-polarization signals provide information about water level mapping, revealing double bounce contributions occur for all polarizations. The presence of rotated dihedral components is suggested to provide physical support to this phenomenon.*	**Sang-Hoon Hong– presented by Shimon Wdowinski**
15:50-16:00	**Recent advances on InSAR temporal decorrelation: theory and observations using UAVSAR** *It is shown in this paper that uniform Brownian motion is not sufficient to discuss temporal decorrelation in forested areas, as it does not explain the dependency w.r.t. polarization nor the arising of complex valued terms. A more proper treatment is provided by allowing temporal decorrelation to depend on the vegetation structure. As a result, a model is provided to retrieve forest height from temporal decorrelation measurements.*	**Marco La Valle**
16:00-16:20	**Mining Very High Resolution InSAR Data based on Complex-GMRF Cues and Relevance Feedback** *This paper proposes an Image Information Mining system which uses InSAR data to recognize the structure and the objects with a Relevance Feedback Support Vector Machine active learning. Results show phase information can provide added information for Image Information Mining.*	**Jagmal Singh**

Q1: are there any recommendations for the future coming out of this research?

Q2: relevance for Sentinel-1?

Q3: do these new method result in new applications?

Q4: general recommendations to ESA

The community expresses the need to be well prepared to processing interferometric TOPS data from Sentinel-1 as soon as they will be made available. To this aim it is recommended to:

- Disseminate detailed information about the TOPS mode of Sentinel-1
- Push for the availability of TOPS interferometric pairs from TerraSAR-X to be used to better understand the actual capabilities of TOPSAR Interferometry

It is suggested to collect large baselines by periodically shifting platform trajectory. This modality would allow to collect packs of small baselines for DInSAR while allowing few larger baselines for InSAR and Tomography.