DINSAR/PSI

Jordi Mallorqi, Ramon Hanssen
People present combinations of point-based (full-res, time behavior) techniques and (in combination with) coherence-based (reduced res, region growing) techniques. Both seem complementary. (Marotti, Hooper, Duque, Gernhardt)

- Partially coherent targets: better exploitation of archive (pixels that would be discarded in one of the two) (Perissin)

- Unwrapping techniques: 3D (information in time and space should be used in solving the problem) (Crosetto)

- How to optimize the selection of interferometric combinations. (Duque)

- Still problems in producing error bars. (Strong dependency of data availability, distribution, signal of interest, processing parameters, etc.)

- Quality assessment of the model (not the data). Case study dependency? Value of a priori knowledge.

- Unwrapping is a problem, APS too

- Riccardo Lanari: trends in estimated velocity fields (remove y/n?)

- Quality vs. density

- Make APS visible, how should it be validated?

- Observation: 3 categories of ‘users’: scientists, companies, ‘end-users (non-radar experts)’ different interests, different knowledge levels, different objectives.
• Should persistent scatterer (full resolution) and coherence (multilooked)-based methods be considered as independent or complementary means of extracting information from satellite SAR data?
• What are the main bottlenecks in terms of quality assessments for the various techniques?
• Is it possible to make generic statements on the quality of the estimated deformation parameters, independent of the area of interest, or are these always case study dependent?
• How should the trade-off between point density and quality be considered?
• How can we parameterize the information content of PS time series? (to interpret time series different from linear velocity model)
• How should benefit advanced DInSAR algorithms from spatial + temporal phase unwrapping?
• Recommendation:
• Significantly more room for experiments needed. Data are paramount
• ESA should make the historical archive available, easy ftp access, no charges
Atmosphere

Fabio Rocca, Ramon Hanssen
• Use of Numerical Weather Models (Etna, Holley)
• APS-Analysis: Stochastic modeling (Knospe)
• APS Analysis: ERS-Envisat (Perissin)
• Ionosphere (Meyer)
• Discussion: Use of NWM for other regions (worldwide) should be evaluated
• Do we feel that the problem of atmospheric delay signal in SAR interferometric approaches is well-understood?
• We distinguish effects of (i) vertical stratification, of importance in case of strong topographic height differences, and (ii) turbulent mixing. Should both effects be tackled independently?
• Is it possible to uniquely identify a spatially correlated interferometric phase error due to ionosphere using current sensors? If yes, which empirical evidence is available?
• What is the value of Numerical Weather Models for (i) local case studies, and (ii) systematic correction of APS irrespective of location and time
• What is the value of the interferometrically derived atmospheric phase screen for operational meteorology and atmospheric research?
• Recommendation:
• Significantly more room for experiments needed. Data are paramount
• ESA should make the historical archive available, easy ftp access, no charges