ERS-2/ENVISAT
28 minutes
cross-interferogram
$B_{\text{perp}} : 2017 \text{ m}$
Ambiguity height: 7.4 m

Tazio Strozzi
ERS still useful for interferometry
Perp. Baseline = 1740 m
$\Delta z_{amb} = 5.3$ m

Google Earth
Jordi Mallorqui

Value of simulations for exploiting new high resolution SAR data

Real GB-SAR data

$\varphi=60^\circ$, $\delta=10^\circ$

Realistic signatures matching real data.
Hyung-Sup Jung

Multi-aperture interferogram for estimating along-track deformations: efficient implementation
Mario Costantini

Tomography and differential tomography for reconstruction of velocity and elevation of multiple scatterers in a resolution cell

- Scatterers well resolved in height
- Estimation of deformation velocity consistent with independent measures
- Reduced SLL w.r.t. 2D Fourier beamforming, but higher sensitivity to miscalibration residuals
- No equal velocity constraints (equal velocity case: [Ferretti-Bianchi-Prati-Rocca, EURASIP JASP ’05])
“Vomero”, Naples
ERS-1/2, 58 passes, ~10 years temporal span

SVD single look

- Single scatterers -
- Double scatterers -

- Scattering mechanisms can be separated
- Automatic single/double scatterer identification also tested
Fabrizio Lombardini

Potentials of differential tomography for continuous distributions of scatterers

velocity profile

SNR=15 dB
\( \frac{g}{v} = \frac{1}{7} \)
16 looks

multistatic

Velocity profiling of non-rigid volume!
Irena Hajnsek
Comparison between P-L-X band for forest parameter estimation by Pol-InSAR:
X band works!
Recommendations from the General Methods Session

• Studies for new and/or improved algorithms are necessary to fully exploit high resolution SAR data from new missions

• Simulations can be useful to better understand the scattering mechanisms

• Advanced techniques like SAR tomography and differential tomography, multi-aperture interferometry, Pol-InSAR, etc., will become more important with the availability of SAR data from the new missions (characterized by frequent revisit time, high resolution, wide-band, polarimetric capabilities, etc.)