

OLINSAR2005 Workshop - Final Programme

Day 1, Monday 17 January 2005

Opening Session: Official Welcome and Keynote Speeches

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| Official Welcome | ESA |
| SAR Polarimetry and Applications | E. Pottier |
| SAR Interferometry and Applications | F. Rocca |
| SAR Polarimetric Interferometry and Applications | S. Cloude |
| Spaceborne SAR Systems for Polarimetric, Interferometric and Pol-InSAR Applications | A. Moreira |

Day 2, Tuesday 18 January 2005

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| SAR Polarimetric Interferometry (Pol-InSAR) | Chair: W. M. Boerner/S. Cloude |
| Polarimetric and Interferometric Mission and Application Study | Kostas Papathanassiou |
| Spaceborne Polarimetric SAR Interferometry: Performance Analysis and Mission Concepts | Gerhard Krieger |
| Constraining Coherence Optimisation in Polarimetric Interferometry of Layered Targets | Jose Luis Gomez-Dans |
| Polarimetric SAR Tomography (POLTOMSAR) | Stephane Guillaso |
| Amplitude-Driven-Adaptive-Neighbourhood Filtering of High-Resolution Pol-InSAR Information | Gabriel Vasile |
| On the Need of Developing Multi-Band Differential (Multiple Pass) POLinSAR Theory and Algorithms for Remote Sensing and Monitoring Severe Environmental Stress Changes (Disasters) Such as Earthquakes, Severe Storms, Typhoons and Floods | Wolfgang-Martin Boerner |
| Round Table, SAR Polarimetric Interferometry (Seed Questions) | Chair: W. M. Boerner/S. Cloude |
| Forestry | Chair: P. Dubois-Fernandez/D. Hoekman |
| Forest Height Estimation by means of Polarimetric SAR Interferometry: Actual Status and Perspectives | Konstantinos Papathanassiou |
| Integration of Polarimetric Classification and Forest Parameter Inversion Using Pol-InSAR Data | J.S. Lee |
| Analysis of forest parameters SAR inversion from SLC multibaseline data | Angelo Liseno |
| Forest biomass estimation from P-band high incidence angle data | Pascale Dubois-Fernandez |
| Forest Mapping and Classification Using L-Band POLINSAR Data | Laurent Ferro-Famil |
| Analysis of forest parameters and agricultural field structure from high resolution PolInSAR X band data | Franck Garestier |

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| Performance of Forest Biomass Estimation from Pol-InSAR and Forest Allometry over Temperate Forests | Tobias Mette |
| Validation of Heights Derived From Interferometric SAR and LIDAR over the Temperate Forest Site Nationalpark Bayerischer Wald | Thomas Aulinger |
| ENVISAT/ASAR data for forest observations in Siberia | A. Wiesmann (for Thuy Le Toan) |
| Round Table, Forestry (Seed Questions) | Chair: P. Dubois-Fernandez/D. Hoekman |
| Poster Session | Chair: K. Papathanassiou |
| Resolution effects on Polar and PolInSAR high resolution X band data | Franck Garestier |
| Quality Assessment of the Oriented Volume over Ground (OVog) Model for POLINSAR Retrieval Algorithms Applied to Agricultural Crops | Juan M. Lopez-Sanchez |
| Polarimetric observations of the ocean surface from the airborne radar STORM | Daniele Hauser |
| PolInSAR data processing with RAT (Radar Tools) | Andreas Reigber |
| Vegetation height estimation using Polarimetric SAR Interferometry for the Monks Wood National Nature Reserve, UK | Parivash Lumsdon |
| A Multiscale Approach to Segmentation in Polarimetric SAR Images | Marc Jäger |
| Polarimetric classification using the Cloude/Pottier decomposition | Mounira Ouarzeddine |
| Combining High Resolution and Low Resolution Information in Synoptic Representation of Fully Polarimetric SAR Images | Jaan Praks |
| Quality assessment of multiparametric segmentation techniques for high resolution polarimetric SAR data | Maria Grazia Viscito |
| Evaluating PolInSAR Parameter Estimation Using Tomographic Imaging Results | Stephane Guillaso |
| | Free Poster Session |
| Radarsat-2 Update | Daniel De Lisle |
| Recent Developments in Long-Wavelength IFSAR for Long Wavelength Forest Mapping | Bryan Mercer |
| Day 3, Wednesday 19 January 2005 | |
| Applications | Chair: E. Pottier/M. Sato |
| Fully vs. Dual Polarisation Satellite Sensors for Urban Area Analysis | Giovanna Trianni |
| Polarimetric Interferometry over Urban Scenarios | Rafael Zandona Schneider |
| Comparison between PSInSAR data in HH and VV polarization over urban areas | Alessandro Ferretti |

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| Development of a Ground-Based Synthetic Aperture Radar (GB-SAR) System and its applications to environment monitoring and disaster prevention | Motoyuki Sato |
| Object Recognition with Radar Polarimetry Using Dual-Frequency and Dual Aspect Angle Observations | Teemu Tares |
| FOPEN with polarimetric interferometry : validations with experimental data in P-band | Elise Colin |
| Mapping Dry Snow in Mountain Regions from Fully Polarimetric SAR Data | Audrey Martini |
| Polarimetric SAR Interferometry for Snow Cover Parameter Estimation | Konstantinos Papathanassiou |
| Dual-polarisation measurements of the ocean surface radar cross-section: analysis from airborne radar observations and ENVISAT ASAR images | Daniele Hauser |
| A Preliminary Study on the Capability of SAR Polarimetry to Observe Oil Spills | Maurizio Migliaccio |
| Polarimetric and Interferometric Features of Oyster Farming Structures in Coastal Areas | Seung-Kuk Lee |
| PolSARpro: A versatile Polarimetric SAR Data Processing and Educational Toolbox | Eric Pottier |
| Round Table, Applications (Seed Questions) | Chair: E. Pottier/M. Sato |
| Land-Agriculture Applications | Chair: P. Lombardo/M. Shimada |
| A New Eigenvalue-based Parameter for Natural Media Characterization | Sophie Allain |
| Differential Extinction Estimation over Agricultural Vegetation from Pol-InSAR | Irena Hajnsek |
| Estimating Sub-Canopy Soil Moisture using POLInSAR | Shane Cloude |
| A POLINSAR Retrieval Algorithm Applied to Rice Crops | J. David Ballester-Berman |
| Agriculture classification using POLSAR data | Henning Skriver |
| On the use of ASAR polarisations for crop monitoring | Thuy Le Toan |
| Round Table, Land-Agriculture (Seed Questions) | Chair: P. Lombardo/M. Shimada |
| Day 4, Thursday 20 January 2005 | |
| Theoretical Modelling | Chair: I. Hajnsek/T. Le Toan |
| On the use of a coherent scattering model to determine the origin of artificial signatures of a target hidden in a forest. Application to the P-Band POLINSAR observation of a trihedron within the Nezer forest. | Laetitia Thirion |
| Study of the Speckle Noise Effects Over the Eigen Decomposition of Polarimetric SAR Data | Carlos Lopez-Martinez |
| Generation of Pol-SAR and Pol-In-SAR Data for Homogeneous Distributed Targets Simulation | Luca Pipia |

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| An analytical expression of the polarimetric coherence based on two-scale surface roughness model | Francesco Mattia |
| Sensitivity analysis for forest interferometric, polarimetric observables estimation | Christian Ruiz |
| Round Table, Theoretical Modelling (Seed Questions) | Chair: I. Hajnsek/T. Le Toan |
| Airborne PolInSAR campaigns | Chair: S. Hensley/H. Skriver |
| Polarimetric Repeat-Pass Interferometric Airborne UHF SAR Data Acquisition and Calibration | Hubert Cantalloube |
| Polarimetric SAR in the Sendai square-loop flight by Pi-SAR | Motoyuki Sato |
| Swiss Alpine Airborne SAR Experiment (SASARE): Multi-baseline polarimetric SAR interferometry studies at L- and P-band | Oliver Stebler |
| INDREX II: Indonesian Airborne Radar Experiment Campaign over | Irena Hajnsek |
| Repeat Pass Processing of L-Band and P-band Data over the La Selva Forest in Costa Rica | Scott Hensley |
| On the need for developing high-altitude drones (UAVs) for implementation of multi-band single and multiple pass differential POLinSAR technology toward in-situ monitoring | Wolfgang-Martin Boerner |
| Round Table, Airborne Polinsar Campaigns (Seed Questions) | Chair: S. Hensley/H. Skriver |
| Spaceborne missions for Polinsar | Chair: A. Moreira/J.-C. Souyris |
| Feasibility Analysis of Pol-INSAR Applications with a TerraSAR-X Tandem Mission | Alberto Moreira |
| Polarimetric and interferometric potential of the PALSAR/ALOS | Masanobu Shimada |
| Applications and Design of a Multi-Polarisation 2nd Generation SAR for the COSMO/SKYMED Constellation | Fabio Dell'Acqua |
| A Study for COSMO-SkyMed SAR Multi-Beam of Second Generation (MSAR-2G) | Pierfrancesco Lombardo |
| Round Table, Spaceborne Missions (Seed Questions) | Chair: I. Hajnsek/T. Le Toan |
| Session Summaries | |
| Workshop Conclusions and Recommendations | Chair: Y.-L. Desnos/M. Engdahl |
| Day 5, Friday 21 January 2005 | |
| POL SAR PRO Training Course | |
| Topic 1: General Presentation of the PolSARpro Software | E. Pottier |
| Topic 2: PolSARpro - Single Data Set Package | E. Pottier |
| Environment, Import Raw Binary Data, Sub Area Extraction | |

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| Polarimetric data conversion | |
| Change of polarisation basis | |
| Speckle filtering, P.W.F | |
| Data processing: polarimetric elements representation. | |
| Polarimetric decompositions and analysis | |
| Unsupervised Wishart - $H/A/\alpha$ Classification | |
| Supervised polarimetric Wishart segmentation | |
| Optimal Polarimetric Contrast Enhancement (O.P.C.E) | |
| Topic 3: PolSARpro - EO Scientific Investigator Package | E. Pottier |
| Speckle Filter (BoxCar, JS Lee refined filter) | |
| $H/A/\alpha$ Decomposition and analysis | |
| Unsupervised Wishart - $H/A/\alpha$ Classification | |
| Practical Course | |