German
Aerospace Center

DLR

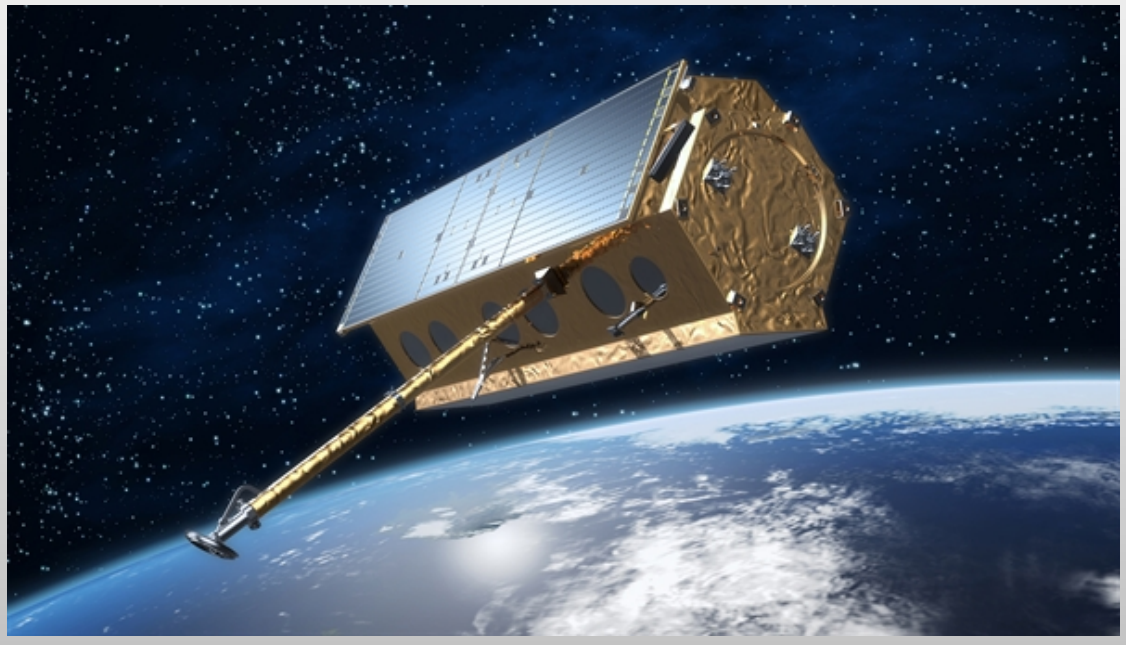
5th TerraSAR-X / 4th TanDEM-X Science Team Meeting

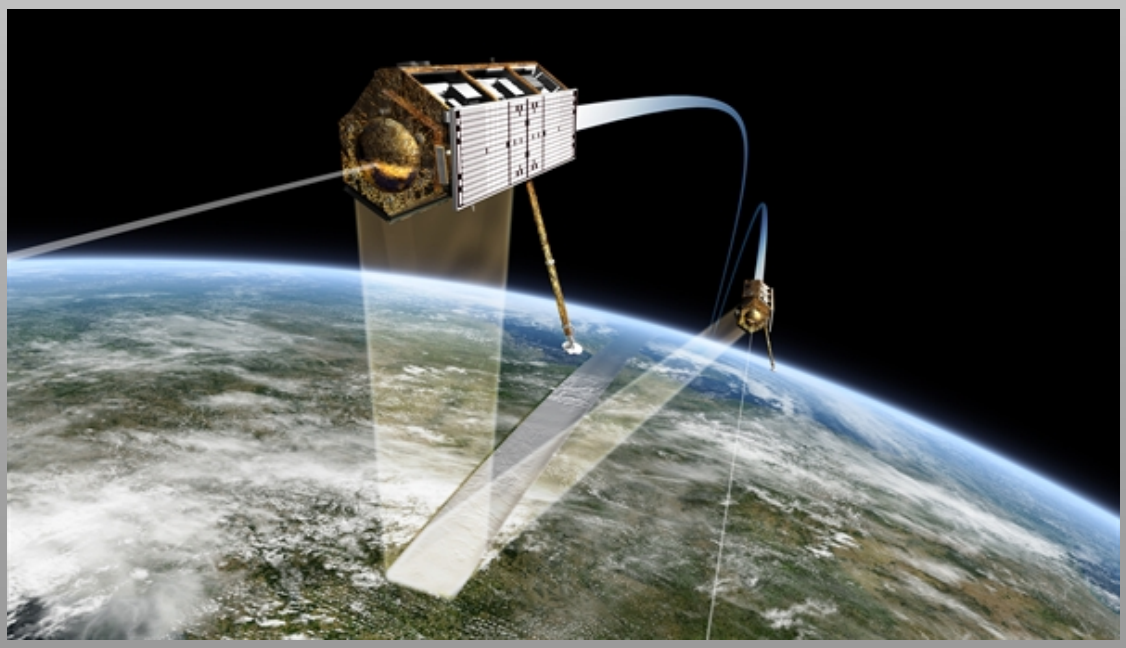
10-14 June 2013

German Aerospace Center (DLR)

Conference Program

Final





Monday, June 10, 2013 Building 121/122 (Earth Observation Center)

09.20 – 09.40 Welcome **Building 122**
Achim Roth - DLR

Session 1.1: Polar Applications - Glacier **Building 122**

Chairperson: Annett Bartsch

09.50 – 10.10 Detailed spatial and temporal kinematics of the Inylchek Glacier, Kyrgyzstan, constrained by TerraSAR-X time-series analysis
Julia Neelmeijer, Mahdi Motagh, Hans-Ulrich Wetzel – Helmholtz Centre Potsdam, GFZ

10.10 – 10.30 Measuring changes to the vertical component of motion of an arctic glacier using multi-track interferometry
Ken Whitehead, Brian Moorman – University of Calgary

10.30 – 10.50 Glacier Elevation Changes of the Puorogangri Ice Field (Central Tibet) Based on Tandem-X Interferometric and IceSAT Altimetry Measurements
Volker Hochschild, Niklas Neckel – Universität Tübingen
Jan Kropacek – TU Dresden

10.50 – 11.10 TerraSAR-X imagery for studies of sea ice and ice sheets
Wolfgang Dierking, Thomas Hollands, Stefanie Linow, Christine Wesche – Alfred Wegener Institute for Polar and Marine Research

11.10 – 11.30 Calving at Pine Island Glacier
A. Humbert, N. Wilkens – University of Hamburg
C. Plate, R. Müller – TU Kaiserslautern
D. Floricioiu – DLR, IMF
M. Braun – University of Erlangen

Session 1.2: Forest Applications **Building 121**

Chairperson: Manfred Keil

09.50 – 10.10 Detection of storm damaged areas in forests using TerraSAR-X data
Klaus Martin – SLU, Company for Remote Sensing and Environmental Research

10.10 – 10.30 Forest biomass mapping with TerraSAR-X stripmap radargrammetry
Svein Solberg – Norwegian forest research institute, forest ecology
Gertrud Riegler – Astrium Infoterra

10.30 – 10.50 X-Band Backscatter and Interferometric Coherence Signatures over the Thuringian Forest, Germany
Christian Thiel, Nicolas Ackermann, Christiane Schmullius – Friedrich-Schiller University

10.50 – 11.10 Estimation of tropical forest biomass using radargrammetric DEMs derived from TerraSAR-X stripmap image pairs
Tor Peder Lohne, Svein Solberg – Norwegian forest and landscape institute
Erik Næsset, Terje Gobakken, Endre Hofstad Hansen – Norwegian university of life sciences
Eliakimu Zahabu – Sokoine university of agriculture

11.10 – 11.30 Mapping of forest damages caused by a tornado 2012 in Gera, Germany using TerraSAR-X change detection
Jörg Ermert, Barbara Koch, Matthias Dees – University of Freiburg

11.30 – 13.00 Lunch break

Session 2.1: Polar Applications **Building 122**

Chairperson: Dana Floricioiu

13.00 – 13.20 Ice loss of arctic ice caps and ice sheets from InSAR observations of coastal uplift.
Falk Amelung, Wenliang Zhao, Shimon Wdowinski – University of Miami
Tim Dixon – University of South Florida

13.20 – 13.40 Ice dynamics and volume changes from repeat pass TerraSAR-X and TanDEM-X data
Thomas Nagler, Markus Hetzenecker, Kilian Scharrer, Helmut Rott – ENVEO IT GmbH
Eyjolfur Magnusson – University of Iceland
Dana Floricioiu – DLR

13.40 – 14.00 Mapping Ice Sheet Grounding Lines using TerraSAR-X
Anna Hogg, Andrew Shepherd – University of Leeds

14.00 – 14.20 Geophysical parameters of outlet glaciers in the Ross Sea Sector, Antarctica
Dana Floricioiu, Daniel Fernandez Amaro, Michael Baessler – DLR
Oliver Marsh, Wolfgang Rack – University of Canterbury

14.20 – 14.40 Permafrost landform dynamics at Kapp Linné central Svalbard, observed using high-resolution TerraSAR-X data, 2009-2012
Tom Rune Lauknes, Yngvar Larsen, Markus Eckerstorfer – Norut
Hanne H. Chriatiansen – UNIS

Session 2.2: Topographic Applications **Building 121**

Chairperson: Birgit Wessel

13.00 – 13.20 DSMs generation from TerraSAR-X High Resolution Spotlight imagery: evaluation of the radargrammetric approach implemented in the scientific software SISAR
Mattia Crespi, Paola Capaldo, Francesca Fratarcangeli, Andrea Nascetti, Francesca Pieralice, Martina Porfiri – Università di Roma "La Sapienza"
Thierry Toutin – Natural Resources Canada

13.20 – 13.40 DSM generation with TerraSAR-X multi-orbit radargrammetry over Mount Song
Timo Balz, Mingsheng Liao – Wuhan University

13.40 – 14.00 The epipolarity constraint in stereo-radargrammetric DEM generation
Hannes Raggam, Roland Perko, Karlheinz Gutjahr – Joanneum Research Forschungsgesellschaft mbH

14.00 – 14.20 High Resolution TerraSAR-X data as source of Ground Control Information
Dimitra Vassilaki, Ch. Ioannidis, A.A. Stamos – National Technical University of Athens

14.20 – 14.40 Facade structures in high resolution SAR images – interpretation and characterization
Stefan Auer, Stefan Gernhardt – Technische Universität München
Junyi Tao – DLR

14.40 – 15.00 Coffee break

Session 3.1: InSAR Applications - Earthquake **Building 122**

Chairperson: Thomas Walter

15.00 – 15.20 TSX-1 data contribute to the modelling of the 2010 Haiti earthquake source in a joint data approach
Henriette Sudhaus, Sebastian Heimann, Thomas Walter – Helmholtz Centre Potsdam GFZ
Frank Krüger – University of Potsdam

15.20 – 15.40 Recent crustal deformation in the orogenic Puna Plateau based on new InSAR observations, NW Argentina
Felix Eckelmann, Mahdi Motagh – Helmholtz Center Potsdam, GFZ
Bodo Bookhagen – UC Santa Barbara
Manfred Strecker – University of Potsdam

15.40 – 16.00 The Geohazard Supersites: A status overview and science examples from Hawaii
Falk Amelung - University of Miami

16.00 – 16.20 The contribution of TerraSAR-X data for geodynamics and engineering studies
Mahdi Motagh, Hans-Ulrich Wetzel – Helmholtz Center Potsdam, GFZ
Mahmud Haghshenas, Roqaye Shamshiri – University of Tehran

16.20 – 16.40 Measurement of deformation due to the 2012 Brawley earthquake swarm in the California Salton Trough with TerraSAR-X, GPS, and seismic data
Eric Fielding, Zhen Liu – Jet Propulsion Laboratory

Session 3.2: Methods – Change Detection **Building 121**

Chairperson: Mihai Datcu

15.00 – 15.20 Temporal adaptive filtering of SAR image time series based on detection of stable and change areas
Thu Trang Le, Abdourrahmane Atto, Emmanuel Trouvé – Université de Savoie
Jean-Marie Nicolas – LTCI, Télécom-ParisTech

15.20 – 15.40 Complex Wishart Distribution-Based Change Detection with Polarimetric TerraSAR-X Imagery
Frank Thonfeld – University of Bonn
Allan A. Nielsen, Henning Skriver, Knut Conradsen – Technical University of Denmark
Morton J. Canty – Research Center Jülich

15.40 – 16.00 Staring Spotlight Mode for TerraSAR-X
Josef Mittermayer, Thomas Kraus, Steffen Wollstadt, Pau Prats, Benjamin Bräutigam – DLR

16.00 – 16.20 Analysis of the Fast H-α Decomposition for Dual- and Compact Polarimetric SAR Using TerraSAR-X data
Hong Zhang, Lei Xie, Chao Wang, Bo Zhang, Fan Wu, Yixian Tang – Institute of Remote Sensing and Digital Earth, CAS

16.20 – 16.40 Calibration Aspects for Time Series of High Resolution TerraSAR-X Images
Gottfried Schwarz, Mihai Datcu – DLR

16.40 – 17.00 Coffee break

Session 4.1: InSAR Applications - Volcano **Building 122**

Chairperson: Falk Amelung

17.00 – 17.20 Deformation and eruption time lags at explosive and effusive volcanoes after earthquakes as revealed by TerraSar-X Interferometry, seismicity and camera observations
Thomas Walter – Helmholtz Centre Potsdam GFZ

17.20 – 17.40 Detection and Monitoring of Volcanic deformation using advanced interferometric SAR techniques
Xiaoying Cong – Technische Universität München
Michael Eineder, Thomas Fritz – DLR

17.40 – 18.00 Summit deformation monitoring at Colima Volcano using TerraSAR-X interferometry
Jaqueline Salzer, Thomas Walter – Helmholtz Centre Potsdam GFZ
Gabriel Reyes, Mauricio Breton – Universidad de Colima

18.00 – 18.20 TerraSAR-X time-series application to investigate and monitor anthropogenic events: The case studies “Ketzin“ and “Staufen im Breisgau“
Christin Lubitz, Mahdi Motagh – Helmholtz Center Potsdam, GFZ

Session 4.2: Methods **Building 121**

Chairperson: Josef Mittermayer

17.00 – 17.20 Complex statistics of Synthetic Aperture Radar data using high resolution TerraSAR-X images
Anca Popescu – University Politehnica Bucharest
Mihai Datcu – DLR

17.20 – 17.40 TerraSAR-X Big Data: The DLR Solutions for Data Mining
Mihai Datcu – DLR

17.40 – 18.00 GNSS Based Signal Path Delay and Geodynamic Corrections for Centimeter Level Pixel Localization with TerraSAR-X
Ulrich Balss, Christoph Gisinger, Xiao Ying Cong, Michael Eineder, Thomas Fritz, Helko Breit, Ramon Brcic – DLR

18.00 – 18.20 Multi-chromatic analysis of SAR images for target analysis and absolute ranging
Fabio Bovenga, Fabio Michele Rana, Alberto Refice, Nicola Veneziano – Consiglio Nazionale delle Ricerche
Raffaele Vitulli – ESA

Tuesday, June 11, 2013

Session 5.1: Hydrology Applications — Building 122

Chairperson: Tobias Ullmann

08.30 – 08.50 Soil Moisture Estimation Using Dual-Polarimetric Coherent (HH/VV) TerraSAR-X and TanDEM-X Data
Thomas Jagdhuber, Irena Hajnsek, Konstantinos Papathanassiou – DLR

08.50 – 09.10 Soil texture estimation using TERRASAR X-band SAR
Mehrez Zribi – CNRS
Fatma Kotti, Azza Gorrab, Zohra Lili, Aicha Chahbi – INAT
Nicolas Baghdadi – IRSTEA

09.10 – 09.30 Monitoring of seasonal changes in water surface areas with TerraSAR-X in a semi-arid catchment in Ceará, Northeast Brazil
Iris Kleine, Christian Rogaß, Saskia Förster – GFZ German Research Centre for Geosciences
Till Francke, Axel Bronstert – University of Potsdam

09.30 – 09.50 TerraSAR-X based detection of water surfaces and their groundwater recharge in areas with dense vegetation
Patrick Keilholz, Markus Disse – University of the Bundeswehr Munich
Juliane Huth – DLR

Session 5.2: Ocean Applications — Building 121

Chairperson: Susanne Lehner

08.30 – 08.50 Mapping halophyte species over salt marsh and tidal flats using TerraSAR-X
Joong-Sun Won, Yoon-Kyung Lee – Yonsei University

08.50 – 09.10 High Resolution TS-X Observation of Wind Field and Sea State over Offshore Wind Farms in the German Bight in comparison to models of the German weather Service
Andrey Pleskachevsky, Susanne Lehner – DLR
Thomas Bruns – DWD

09.10 – 09.30 Joint TerraSAR-X and COSMO-Skymed campaigns for maritime monitoring over Helgoland
Domenico Velotto, Susanne Lehner, Egbert Schwarz, Stephan Brusch – DLR
Olaf Juhl – BPol
Katrin Hessner, Wolfgang Rosenthal – Oceanwaves

09.30 – 09.50 Assessment of methods for the retrieval of sea surface wind directions using X-band TerraSAR-X data
Fabio Michele Rana, Maria Adamo, Guido Pasquariello, Giacomo De Carolis, Fabio Bovenga – Italian National Research Council (CNR)
Sandra Morelli – University of Modena and Reggio Emilia

09.50 – 10.10 Coffee break

Session 6.1: Polar Applications **Building 122**

Chairperson: Wolfgang Dierking

10.10 – 10.30 Classification of Coastal Arctic Land Cover by means of TerraSAR-X dual co-polarized data
Tobias Ullmann, Roland Baumhauer – University of Würzburg
Stefan Dech, Andreas Schmitt, Sarah N. Banks, Achim Roth – DLR

10.30 – 10.50 Ground Validation for TerraSAR-X imagery in the Western Canadian Arctic
Annett Bartsch – Vienna University of Technology
Boris Radosavljevic, Jaroslav Obu, Stefanie Weege, Juliane Wolter, Birgit Heim, Hugues Lantuit, Michael Fritz – Alfred Wegener Institut für Polar und Meeresforschung

10.50 – 11.10 Deformation patterns at the Jettan rockslide in northern Norway observed using high-resolution TerraSAR-X, Radarsat-2, and corner reflector InSAR data
Tom Rune Lauknes, Yngvar Larsen, Harald Øverli Eriksen, Tom Grydeland – Norut
John F. Dehls – Geological Survey of Norway

11.10 – 11.30 Subsidence and thermal processes in permafrost in the Lena Delta determined by satellite radar data and ground observations
Sofia Antonova, M. Langer, B. Heim, J. Boike – Alfred Wegener Institut für Polar und Meeresforschung
A. Kääb, S. Westermann – University of Oslo
A. Bartsch – Vienna University of Technology

Session 6.2: InSAR applications - infrastructure **Building 121**

Chairperson: Mahdi Motagh

10.10 – 10.30 TerraSAR-X InSAR monitoring of Landslides along Transportation and Energy Corridors
Francois Charbonneau, Vernon Singhroy, Rejean Couture – Canada Centre for Remote Sensing

10.30 – 10.50 Multi-pass high-resolution SAR interferometry for dam monitoring
Gabriel Vasile - French National Council for Scientific Research (CNRS)
Andrei Anghel – GIPSA-lab
Guy Urso, Rémy Boudon, Didier Boldo – EDF
Jean-Philippe Ovarlez – ONERA

10.50 – 11.10 Exploitation of TerraSAR-X dual-pol time series for adaptive speckle filtering and its application to Persistent Scatterers Interferometry
Victor D. Navarro-Sanchez, Juan M. Lopez-Sanchez – University of Alicante

11.10 – 11.30 Semi-automatic processing of InSAR data from artificial reflectors
Lena Halounova, Ivana Hlaváčová, Květoslava Svobodová – Czech Technical University

11.30 – 13.00 Lunch break

Session 7.1: Land Cover Applications **Building 122**

Chairperson: Achim Roth

13.00 – 13.20 Exploiting TerraSAR-X data in the frame of the Kalideos programme: methodological approach and examples
Arnaud Selle – CNES
Thierry Rabaute, Patrick Imbo – CS SI
Aurélie Dehouck, Virginie Lafon – GEOTransfert

13.20 – 13.40 Possibilities of TerraSAR-X data for the prospection of archaeological sites by SAR
Roland Linck – Bavarian State Department of Monuments and Sites

13.40 – 14.00 Global Mapping of Settlements – Status of the Urban Footprint Processor
Thomas Esch, Mattia Marconcini, Andreas Felbier, Achim Roth – DLR

14.00 – 14.20 Radar-based damage assessment: near-real-time spotlight acquisition on single building collapses from informal on-line news scanning
Fabio DellAcqua, Mostapha Harb – University of Pavia and EUCENTRE

14.20 – 14.40 Estimating the occupancy rate of truck parking spaces at motorway service areas using TerraSAR-X High Resolution Spotlight images
Michael Bäßler, Hartmut Runge – DLR

Session 7.2: InSAR Applications - Urban **Building 121**

Chairperson: Michael Eineder

13.00 – 13.20 Cities in Motion – TerraSAR-X Reveals Deformation of Single Buildings
Stefan Gernhardt – TU-München
Richard Bamler – DLR

13.20 – 13.40 SAR Tomography for the monitoring of landslides in urban areas with TerraSAR-X
Diego Reale, Gianfranco Fornaro, Giovanni Gullà, Simona Verde – IREA-CNR

13.40 – 14.00 Analysis of TerraSAR-X persistent scatterer interferometry data over urban areas
Oriol Monserrat – Institute of Geomatics

14.00 – 14.20 Tomographic Urban Mapping and Object Reconstruction Using TerraSAR-X Spotlight Data Stacks
Richard Bamler, Xiao Xiang Zhu – DLR
Muhammad Shahzad, Yuanyuan Wang – Technische Universität München

14.20 – 14.40 Differential movement of bridge approach embankments in northwest Iran constrained from C-band, L-band and X-band InSAR measurement
Mahdi Motagh – Helmholtz Center Potsdam, GFZ
Roghayeh Shamshiri – University of Tehran

14.40 – 15.10 Coffee Break

Session 8.1: Land Cover Applications **Building 122**

Chairperson: Thomas Esch

15.10 – 15.30 Mapping habitats withTerraSAR-X, RADARSAT-2 and RapidEye data: Implications of synergy and uncertainty for landscape analysis
Stefan Erasmi, Hans Fuchs, Catrin Westphal, Christoph Kleinn – Georg-August-Universität Göttingen

15.30 – 15.50 Analysis of seasonal Dual Pol TerraSAR-X time series data for the Classification of Grassland Types in Southern Bavaria, Germany
Annekatrin Metz, Manfred Ehlers – University of Osnabrueck
Andreas Schmitt, Thomas Esch, Peter Reinartz – DLR

15.50 – 16.10 TerraSAR-X HH/VV Dual Polarimetric Signatures of Grasslands
Kaupo Voormansik, Karlis Zalite – University of Tartu
Thomas Jagdhuber, Irena Hajnsek – DLR
Aire Olesk – Tartu Observatory

16.10 – 16.30 Contribution of texture from TerraSAR-X radar image for forest classification
Hajar Benelcadi, Pierre Louis Frison, Jean Paul Rudant – University of Paris Est
Cédric Lardeux – ONF International

16.30 – 16.50 Supporting Early Season Crop Monitoring with TerraSAR-X
Heather McNairn, Angela Kross, David Lapen, Jiali Shang – Agriculture and Agri-Food Canada
Ron Caves – MacDonald Dettwiler and Associates

Session 8.2: InSAR Applications **Building 121**

Chairperson: Nico Adam

15.10 – 15.30 Detection and monitoring of subsidence caused by underground mining in central China with TerraSAR-X
Björn Riedel, Donglie Liu – TU Braunschweig

15.30 – 15.50 Landslide Monitoring with High-Resolution TerraSAR-X Data in the Three Gorges Area
Mingsheng Liao, Lu Zhang, Timo Balz – Wuhan University

15.50 – 16.10 TSX DInSAR data for detecting and monitoring slope motion phenomena in an Alpine periglacial environment at different resolution scales (Western Swiss Alps, Switzerland)
Chloé Barboux, Reynald Delaloye, Claude Collet – University of Fribourg
Christophe Lambiel – University of Lausanne
Tazio Strozzi – Gamma Remote Sensing

16.10 – 16.30 Monitoring landslides in the Three Gorges region, China, using SAR sub-pixel offset techniques
Andrew Singleton, Zhenhong Li, Trevor Hoey, Simon Wheeler – University of Glasgow

16.30 – 16.50 Using Corner Reflectors and TerraSAR-X data for Slope Instability Monitoring
Fabio Bovenga, Alberto Refice, Guido Pasquariello – CNR

17.00 – 19.00: Poster Session **Building 122**

1. Refugee camp mapping in Jordan using TerraSAR-X data
   Eva-Maria Bernhard – DLR
2. Contextual patterns discovery in post disaster evaluation of 2011 Japan Tsunami using TSX products
   Daniela Faur – Politehnica University of Bucharest
   Daniela Espinoza Molina, Mihai Datcu – DLR
3. Using Terrasar-x images to detect potentially flooded agricultural lands within the Elbe River Biosphere Reserve in Lower Saxony, Germany
   Dalia Farghaly, Emad Elba, Brigitte Urban – LEUPHANA University of Lüneburg
4. Soil Moisture Inversion using Dual Polarimetric Terrsar-X Data
   Ponnurangam Gramini Ganesan, Rao Y S, Venkataraman Gopalan, Mohan B K – Indian Institute of Technology Bombay
5. Detection of fluvial landform change in the coastal desert of Peru - A reanalysis
   Jussi Baade, Christiane Schmullius – Friedrich-Schiller-Universität Jena
6. Demand driven observation of soil moisture – A multi sensor approach
   Ingmar Schröter, Peter Dietrich, Hendrik Paasche, Ute Wollschläger – Helmholtz Centre for Environmental Research
7. Continuous compaction of acquirer system in Tehran, Iran, as evidenced by C-band, L-band and X-band radar measur
   Mahdi Motagh – Helmholtz Center Potsdam, GFZ
   Mahmud Haghshenas, Mustapha Esmaeili – University of Tehran
8. Characterizing landslide movement in Doroud region, Western Iran, using TerraSAR-X InSAR time-series
   Mahdi Motagh – Helmholtz Center Potsdam, GFZ
   Mahmud Haghshenas – University of Tehran
9. TerraSAR-X measurement of Postseismic deformation in Christchurch, New Zealand, following the 2010-2011 Canterbury earthquakes
   Mahdi Motagh – Helmholtz Center Potsdam, GFZ
   Pegah Faegh-Lashgary, John Townend – Victoria University of Wellington
10. Persistent Scatterer Interferometry for Detecting Groundwater Induced Surface Movements
    Nesrin Salepci, Arvid Kuehl, Christian Thiel, Christiane Schmullius – Friedrich-Schiller-University Jena
11. Fusing interferometric and radargrammetric TerraSAR-X data for change detection in urban areas
    Clémence Dubois, Antje Thiel, Stefan Hinz – KIT - Karlsruhe Institute of Technology
12. Detecting ground deformation in Bucharest, Romania, using high-resolution multitemporal InSAR and TerraSAR-X data
    Marius Necsoiu – Southwest Research Institute
    Diana-Alexandra Gheorghe, Iuliana Armas – University of Bucharest
13. Monitoring Urban Subsidence in Bucharest City with TerraSAR-X
    Carmen Patrascu – University Politehnica of Bucharest
    Delia Teleaga, Valentin Poncos – Advanced Studies and Research Center
    Mihai Datcu – DLR

14. Detection and Analysis of Anomalous Permanent Scatterers in TerraSAR-X Data
Carmen Patrascu – University Politehnica of Bucharest
Mihai Datcu – DLR

15. Interferometric Determination of Subsidences in Prague City
Kvetoslava Svobodova, Ivana Hlavacova, Lena Halounova – Czech Technical University

16. Beijing Subway Tunnels and High-speed Railway Subsidence Monitoring with PSInSAR and TSX data
Daqing Ge, Man Li, Xiaofang Guo, Ling Zhang, Yan Wang – China Areo Geophysical Survey & Remote Sensing Center for Land and Resources

17. Study of spatial and temporal evolution of snowpack on Alpines glacier using TerraSAR-X acquisitions
Michel Gay, Xuan-Vu Phan – CNRS, GIPSA-lab
Laurent Ferro-Famil – CNRS-IETR
Yves Durand – METEO-FRANCE

18. Rockglacier movement detection by D-InSAR in French Alps using TerraSAR-X data: Inventory (large scale) and case study (local scale)
Thomas Echelard, Philippe Schoeneich – Joseph Fourier University
Michel Gay – CNRS, Gipsa-Lab

19. The potential of TerraSAR-X and TanDEM-X to map glacier changes (surface velocities, elevation) in the Karakoram region
Melanie Rankl, Saurabh Vijay, Matthias Braun – Univeristy of Erlangen

20. Towards a better understanding of explosive volcanism: stratovolcanoes analysed by TerraSAR-X interferometry
Nicole Richter, Elske de Zeeuw - van Dalfsen, Thomas Walter – GFZ Potsdam

21. Landslip, creep and landslide monitoring of the Three Gorges region based on dInSAR and pcSAR using TerraSAR-X data
Luyi Sun, Jan-Peter Muller – University College London

22. Monitoring and evaluation of the continuous surface changes on Orhaneli open-mine pit
Ozgun Akcay, Orhan Akyilmaz, Hakan Tuncbilek, Erim Guclu, Serhat Yilmazturk – Istanbul Technical University
Mahdi Motagh – Helmholtz Center Potsdam, GFZ

23. Space-geodetic determination of surface deformation due to resource extraction in Australia
Medhavy Thankappan, Matthew Garthwaite, Sarah Lawrie, John Dawson – Geoscience Australia
Mick Filmer, Will Featherstone – Curtin University
Andreas Schenk – Karlsruhe University of Technology
Linda Morgan – Landgate Western Australia

24. Glacier Velocity Estimation Using Offset Tracking Method
Gopalan Venkataraman – Indian Institute of Technology, Bombay
Avik Bhattacharya, Surendar Manickam – CSRE

25. Land deformation monitoring in the Ocnele Mari salt mining area using VHR TSX data
Violeta Domnica Poenaru, Iulia Dana – Romanian Space Agency
Delia Teleaga, Valentin Poncos – Advanced Studies and Research Center

26. Rice phenology estimation with multitemporal TerraSAR-X data using dynamic system concepts
Fernando Vicente-Guijalba, Tomas Martinez-Marin, Juan M. Lopez-Sanchez – University of Alicante

27. Modelling of Vegetation Paramerers from Microwave data
Katarzyna Dabrowska-Zielinska, Maria Budzynska, Iwona Malek, Monika Tomaszewska, Martyna Gatkowska, M. Napiorkowskawska – Institute of Geodesy and Cartography

28 Tropical Forest Monitoring using TerraSAR-X And TanDEM-X Data
Ralf Knuth, Stefan Engelhardt, Christiane Schmullius – Friedrich-Schiller-University Jena

29. The relationship between backscattering coefficient and products of interferometric processing of TerraSAR-X stripmap images in forests of different types and ages
Dariusz Ziolkowski, Agata Hoscilo, Zbigniew Bochenek – Institut of Geodesy and Cartgraphy

30. Ice and Sea State in Arctic Regions
Andrey Pleskachevsky, Susanne Lehner – DLR
Johannes Gemmrich – University of Victoria

31. A large glacier surge on Austfonna, Svalbard, from TerraSAR-X offset tracking
Andreas Kääb, Thomas Schellenberger, Thorben Dunse – University of Oslo

32. Use of TerraSAR-X space images for interpretation of snow and ice conditions on Bellingshausen Dome, King George Island, Antarctic
Bulat Mavlyudov – Institute of geography of Russian Academy of Scviences

33. TerraSAR X data used for monitoring snow water equivalent and permafrost on Svalbard
Yngvar Larsen, Eirik Malnes, Harald Johnsen. Tom Rune Lauknes, Markus Eckerstorfer – Norut
Hanne Christiansen –The University Centre in Svalbard (UNIS)

34. Ice dynamics and mass budgets of Northern Antarctic Peninsula glaciers
Thorsten Seehaus, Matthias Braun – University of Erlangen
Sebastian Marinsek – Institut Antártico Argentino

35. Retrieval of the sea surface wind field by TerraSAR-X and Tandem-X data
Xiaoming Li, Susanne Lehner – DLR

36. Immersive Visual Information Mining for exploring the content of TerraSAR-X archives
Mohammadreza Babaee, Gerhard Rigoll – Human-Machine Communication Institue
Gholamreza Bahmanyar – Munich Aerospace Faculty
Mihai Datcu – DLR

37. Spatial and Temporal SAR Image Information Mining
Shiyong Cui, Mihai Datcu – DLR

38. Semantic Annotation and Ontologies for the TerraSAR-X Image Products
Mihai Datcu, Corneliu Octavian Dumitru – DLR

39. Knowledge Discovery Architecture Concept for the Payload Ground Segments
Daniela Espinoza-Molina, Mihai Datcu – DLR

40. Merging of optical and SAR Data
Manfred Hager, Harald Anglberger, Rainer Speck, Helmut Süß – DLR

41. Image Fusion of Different Spaceborne SAR Sensors
Timo Kempf, Harald Anglberger – DLR

42. Spatial Content Understanding for Very High resolution Synthetic Aperture Radar Images: New Methods and Evaluation
Jagmal Singh, Mihai Datcu – DLR

43. PolSAR Image Segmentation based on the Mean Shift algorithm
Hong Zhang, Xi Ye, Chao Wang, Bo Zhang, Fan Wu, Yixian Tang, Lei Xie – Institute of Remote Sensing and Digital Earth, CAS

44. First experiments of PS-calibration on a TerraSAR-X data stack
Davide Giudici – Aresys srl
Andrea Monti Guarnieri, Simone Mancon, Stefano Tebaldini – Politecnico di Milano

45. SAR-EDU – an education initiative for applied synthetic aperture radar remote sensing
Robert Eckardt, Christian Thiel, Christiane Schmullius – Friedrich-Schiller University Jena
Nicole Richter, Mahdi Motagh – GFZ German Research Centre for Geosciences
Stefan Auer – Technical University Munich
Michael Eineder, Achim Roth, Irena Hajnsek, Andrey Pleskachevsky – DLR
Diana Walter – Technical University Clausthal
Matthias Braun – Friedrich-Alexander- University Erlangen-Nürnberg
Carsten Pathe – Earth Observation Services Jena

46. A Virtual Lab for Web Based Training for Optical/Infrared and SAR Imagery
Krishna Mohan Buddhiraju, Avik Bhattacharya – Indian Institute of Technology Bombay

Wednesday, June 12, 2013

Plenary: TerraSAR-X/TanDEM-X Science Team Meeting **Building 124**

Chairperson: Alberto Moreira

09.00 – 09.10 Welcome
Alberto Moreira – DLR

09.10 – 09.35 TerraSAR-X Mission Status
Stefan Buckreuß – DLR

09.35 – 10.00 TanDEM-X Mission Status
Manfred Zink – DLR

10.00 – 10.30 Joint Activities with the Canadian Space Agency (CSA)
Stephane Chalifoux – Canadian Space Agency (CSA)

10.30 – 11.00 ALOS-2 status and the science project
Manabu Watanabe – Earth Observation Research Center (EORC) Japan Aerospace Exploration Agency (JAXA)

11.00 – 11.30 Sentinel-1 System Capabilities and Applications
Dirk Geudtner, Ramón Torres, Paul Snoeij, Malcolm Davidson – European Space Agency (ESA)

11.30 – 13.00 Lunch break

Session 1: TanDEM-X Mission Status **Building 124**

Chairperson: Alberto Moreira

13.00 – 13.20 TanDEM-X: Science Activities
Irena Hajnsek – ETH Zurich & DLR

13.20 – 13.40 Acquisition Status and DEM Performance
Markus Bachmann – DLR

13.40 – 14.00 Interferometric Processing
Thomas Fritz – DLR

14.00 – 14.20 Digital Elevation Model Products Specification
Birgit Wessel – DLR

14.20 – 14.40 TanDEM-X The Commercial Offer
Marek Tinz – Infoterra GmbH

14.40 – 15.10 Coffee break

Session 2: SAR Techniques **Building 124**

Chairperson: Gerhard Krieger

15.10 – 15.30 Towards a 6m TanDEM-X DEM: Non-local Methods for InSAR Filtering
Xiaoxiang Zhu, Fathalrahman Adam, Richard Bamler – DLR
& Technical University Munich (TUM)
Marie Lachaise – DLR

15.30 – 15.50 Interferometric Processing of TanDEM-X Bi-Static Pairs Using an Open-Source Platform
Michael Jendryke – TU-Munich & Wuhan University
Mingsheng Liao, Timo Balz, Lu Zhang – Wuhan University

15.50 – 16.10 Performance analysis of the TanDEM-X DEM generated with DIAPASON software
Fifame Koudogbo, Javier Duro – Altamira Information
Palma Blonda – CNR-ISSIA
Richard Lucas – Institute of Geography and Earth Sciences
Sander Mucher – Alterra

16.10 – 16.30 Motion Detection Using TanDEM-X Along-Track Interferometry
Steffen Suchandt – DLR
Hartmut Runge – DLR

16.30 – 16.50 Interferometric processing of CoSSC data for terrain deformation detection
Zhang Hong – Center for Earth Observation and Digital Earth, CAS
Tang Yixian, Xie Lei, Wang Chao – Institute of Remote Sensing and Digital Earth

16.50 – 17.10 Short break

Session 3: SAR Techniques **Building 124**

Chairperson: Gerhard Krieger

17.10 – 17.30 Potentials of the TanDEM-X mission in the generation of urban DEMs
Cristian Rossi, Michael Eineder, Thomas Fritz – DLR
Stefan, Gernhardt -Technical University Munich (TUM)

17.30 – 17.50 Evaluation of High Resolution TanDEM-X Data for Urban Monitoring
Zhou Zheng-Shu, Peter Caccetta, Xiaoliang Wu, Jeremy Wallace – CSIRO
Irena Hajnsek – DLR & ETH Zurich
Thomas Busche – DLR

17.50 – 18.10 The application of X-Band SAR interferometry in archaeology – first results from test sites in Turkey
Ralph Rosenbauer, Mirko Novák, Susanne Rutishauser – University Berne
Stefan Erasmi, Ralf Buchbach – University of Göttingen

18:30 Joint TerraSAR-X and TanDEM-X Dinner DLR-TechLab

Thursday, June 13, 2013

Session 4: Hydrological Applications — Building 124

Chairperson: Thomas Jagdhuber

08.30 – 08.50 Height map generation for hydrology from low incidence TanDEM-X data
Nadine Pourthie, Damien Desroches, Roger Fjortoft, Nadine Pourthie – CNES
Javier Duro, Patrick Ordoqui – Altamira-Information

08.50 – 09.10 SAR images refocusing on specific grids for interferometric processing
Gabriel Vasile – National Council for Scientific Research (CNRS), Grenoble
Jean-Philippe Varlez – ONERA
Rémy Boudon, Guy Urso, Didier Boldo – EDF
Andrei Anghel – GIPSA-lab
Irena Hajnsek – DLR

09.10 – 09.30 Improved flood detection by using bistatical coherence data of the TanDEM-X mission
Gebhard Ward – University Tübingen
Sandro Martinis – DLR

09.30 – 09.50 Current Field Retrievals and SAR Signal Coherence Analysis Using TerraSAR-X and TanDEM-X
Roland Romeiser – University of Miami
Hartmut Runge, Steffen Suchandt, Ralph Kahle, Cristian Rossi – DLR
Paul Bell – National Oceanography Centre

09.50 – 10.20 Coffee break

Session 5: Sea Ice & Glacier Applications — Building 124

Chairperson: Dana Floricioiu

10.20 – 10.40 Single pass bistatic interferometry for sea ice build-up around offshore structures
Oliver Lang – Infoterra
Jan Anderssohn, Parivash Lumsdon – Astrium GEO-Information Services
Kim Partington – Polar Imaging Limited

10.40 – 11.00 TanDEM-X measurement of sea ice drift and sea surface current in the Fram Strait and in the Baltic Sea
Leif Eriksson, Gisela Carvajal, Anders Berg – Chalmers University of Technology

11.00 – 11.20 High-resolution topographic and velocity measurements from TanDEM-X data for Helheim and Kangerdlugssuaq glaciers in south-east Greenland
Suzanne Bevan, Adrian Luckman, Tavi Murray – Swansea University

11.20 – 11.40 Volume changes 2000 – 2011/2012 of glaciers in the Patagonia Icefields from TanDEM-X and SRTM data
Dana Floricioiu, Wael Abdel Jaber – DLR
Helmut Rott – University of Innsbruck, Björn Sass – FAU Erlangen

11.40 – 13.00 Lunch break

Session 6: Glacier Applications **Building 124**

Chairperson: Helmut Rott

13.00 – 13.20 Flow and height change of Greenland Ice Sheet outlet glaciers from TanDEM-X observations
Noel Gourmelen – University of Strasbourg

13.20 – 13.40 Monitoring Polar Ice Sheets using TanDEM-X – Preliminary results
Jeremie Mouginot, Bernd Scheuchl, Xin Li, Eric Rignot – University of California, Irvine

13.40 – 14.00 Snow depth extraction based on polarimetric phase differences
Silvan Leinss – ETH Zurich
Irena Hajnsek – ETH Zurich & DLR

14.00 – 14.20 Glacier elevation study using TanDEM-X
G. Venkataraman – Indian Institute of Technology Mumbai
Avik Bhattacharya – CSRE

14.20 – 14.40 Observing volume changes and mass balance of glaciers by means of TanDEM-X
Helmut Rott – University of Innsbruck
Gabriele Bippus, Thomas Nagler, Jan Wuite – ENVEO IT
Michael Eineder, Wael Abdel Jaber, Dana Floricioiu – DLR

14.40 – 15.10 Coffee break

Building 124

Session 7: Forest Structure

Chairperson: Kostas Papathanassiou

15.10 – 15.30 Effect of Terrain Relief and Vegetation Cover on the Accuracy of TanDEM-X DEM
Rinki Deo, Y S Rao – IIT Bombay

15.30 – 15.50 Assessment of the quality of digital surface and canopy height models over forests derived from TanDEM-X interferometry
Joerg Ermert, Barbara Koch, Matthias Dees – University of Freiburg

15.50 – 16.10 Boreal forest biomass classification with TanDEM-X standard DEM acquisitions
Astor Torano Caicoya, Florian Kugler, Kostas Papathanassiou – DLR
Irena Hajnsek – DLR & ETH Zurich

16.10 – 16.30 Monitoring forest biomass with Tandem-X
Svein Solberg, J Astrup Rasmus – Norwegian Forest and Landscape Institute

16.30 – 16.50 Interferometric X-band SAR for monitoring of forest biomass: correction of topographic effects
Holger Lange, Svein Solberg – Norwegian Forest and Landscape Institute

16.50 – 17.10 Tropical Forest Remote Sensing of Structure and Biomass over Brazil with TanDEM-X
Robert Treuhaft, Soren Madsen, Scott Hensley – Jet Propulsion Laboratory, California Institute of Technology
Fabio Goncalves – Woods Hole Research Center
Joao Roberto dos Santos – Instituto Nacional de Pesqusas Espaciais
Michael Palace – University of New Hampshire
Michael Keller – USDA Forest Service
Paulo Mauricio Lima de Alencastro Graca – Instituto Nacional de Pesquisas da Amazônia

17.10 – 17.20 Short break

17.20 – 19.30 – Poster Session **DLR-TechLab**

1. Study and Monitoring of Virunga Volcanoes using Tandem-X interferometry
François Kervyn, Fabien Albino – Royal Museum for Central Africa
Nicolas d Oreye, Benoit Smets – National Museum of Natural History
Dominique Derauw – Université de Liège, Centre Spatial de Liège

2. Height Maps from Bistatic TanDEM-X Acquisitions using SAR Interferometry for Study Sites in the Swiss Alps
Jessica Papke, Charles L. Werner, Tazio Strozzi – GAMMA Remote Sensing AG
Chloe Barboux – University of Fribourg
Nicholas J. Tate – University of Leicester

3. The problem of SNR in PolInSAR Observations with TanDEM-X over rice fields
Juan M. Lopez-Sanchez, Fernando Vicente-Guijalba, J. David Ballester-Berman – University of Alicante

4. Mapping Terrestrial Impact Craters with the TanDEM-X Digital Elevation Model
Manfred Gottwald, Thomas Fritz, Helko Breit, Birgit Schättler, Alan Harris – DLR

5. Dual polarimetric TanDEM-X for ship detection with a notch filter
Armando Marino – ETH Zurich
Irena Hajnsek – ETH Zurich & DLR

6. Investigation of TanDEM-X InSAR DEMs as input for new sensor modelling, epidemiological and natural hazard applications
Henri Giraud, Claire Huber, Mathias Studer, Carlos Uribe, Hervé Yesou – SERTIT – UDS
Denis Blumstein, Christine Lion – LEGOS/CNES/CNRS

7. Snow depth extraction based on polarimetric phase differences
Silvan Leinss – ETH Zurich
Irena Hajnsek – ETH Zurich & DLR

8. Gaussian Markov Random Field Based Phase Locked Loop for Phase Unwrapping of Two Dimensional Interferograms
Nazli Deniz Kahyaoglu, Mihai Datcu – DLR

9. An analysis on the contribution of the phase component in scene class recognition in TerraSAR-X scenes
Anca Popescu – University Politehnica of Bucharest – Research Center for Spatial Information
Mihai Dactu – DLR

10. Target Analysis in InSAR Data using a Phase-Scale Approach
Jagmal Singh, Mihai Datcu – DLR

11. Extraction of Buildings from TanDEM-X Data
Clémence Dubois, Antje Thiele, Stefan Hinz – KIT – Karlsruhe Institute of Technology

12. Glacier dynamics and elevation change of Columbia Glacier, Alaska, using TanDEM-X data
Saurabh Vijay, Matthias Braun – FAU Erlangen-Nürnberg

13. Validation of TanDEM-X Products in Polar Regions
Veit Helm – Alfred-Wegener-Institute
Niklas Neckel – TU-Tübingen
Wolfgang Rack – University of Canterbury, Te Whare Wananga o Waitaha
Reinhard Drews – N/A

14. Implementation of high resolution POLSAR & POLINSAR imagery for geo/bio-environmental monitoring of natural hazard-prone and man-induced disaster regions across Indonesian Island Republic
Wolfgang-Martin Boerner – University of Illinois at Chicago
Josaphat Tetuko Sri Sumantyo – CEReS Chiba University
Arifin Nugroho – Institute of Technology Bandung
Katsumi Hattori – Earthquake Res. Ctr, Chiba-University

Friday, June 14, 2013

Session 8: Forest Applications

Building 124

Chairperson: Matteo Pardini

08.30 – 08.50 Analysis of TanDEM-X InSAR Data and LiDAR Data Aimed at the Characterisation of Open Forest Vertical Structure: A Case Study in Injune, Queensland (Australia)
Elsa Carla De Grandi, Richard Lucas, Gianfranco De Grandi - Aberystwyth University
Paolo Riccardi – sarmap SA

08.50 – 09.10 Digital Canopy Modelling from TanDEM-X Interferometry and High-Resolution Lidar DEM: Processing Description, Geocoding Accuracy, and Geometric Fidelity Assessment
Maciej Soja, Lars Ulander – Chalmers University of Technology

09.10 – 09.30 Effects of tree species and season on boreal forest biomass estimates from TanDEM-X
Lars Ulander, Jan Askne, Leif Eriksson, Maciej Soja – Chalmers University of Technology
Johan Fransson, Henrik Persson – Swedish University of Agricultural Sciences

09.30 – 09.50 Spatial statistics of Tandem-X backscatter and coherence data provided by a wavelet frame aimed at the characterization of forest horizontal structure
Gianfranco De Grandi, Elsa Carla De Grandi – University of Aberystwyth
Paolo Pasquali – sarmap SA

09.50 – 10.20 Coffee break

Session 9: Volcano Applications **Building 124**

Chairperson: Michael Eineder

10.20 – 10.40 Application of TanDEM-X data to volcanic hazard assessment and numerical modeling: example from Merapi Volcano, Central Java, Indonesia
Sylvain Charbonnier – University of South Florida
Batuhan Osmanoglu – University of Alaska Fairbanks
Timothy Dixon, Chuck Connor – University of South Florida

10.40 – 11.00 TanDEM-X data for early mapping and volume estimation of lava flows: October 2010 Lava flow of Piton de la Fournaise case study
Mary Grace Bato, Jean-Luc Froger, Thierry Souriot – Clermont Université, Université Blaise Pascal, Laboratoire Magmas et Volcans
Nicolas Villeneuve – Laboratoire GéoSciences Réunion, Université de La Réunion

11.00 – 11.20 Application of TanDEM-X interferometry in volcano monitoring using Merapi, Indonesia and Volcán de Colima, Mexico as test sites
Julia Kubanek, Malte Westerhaus, Bernhard Heck – Karlsruhe Institute of Technology (KIT)

11.20 – 12.40 Lunch

12.40 – 14.00 **Overview and Discussion: Requirements on the 6-month TanDEM-X mission phase dedicated to science experiments**

Splinter Meetings

14.00 – 14.20 **Meeting Resume & Farewell**

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