TerraSAR-X / TanDEM-X Science Team Meeting
17-20 October 2016
German Aerospace Center (DLR)

Preliminary Conference Program
Monday, October 17, 2016

Plenary: TerraSAR-X and TanDEM-X Mission and Coordinated Data Provision  Building 124

13.00 – 13.10  Welcome  
   Alberto Moreira – DLR

13.10 – 13.30  Mission overview  
   Stefan Buckreuß – DLR

13.30 – 13.50  GEOHazard  
   Jörn Hoffmann – DLR

13.50 – 14.10  Polar space task group  
   Yves Crevier – CSA

14.10 – 14.30  GFOI  
   Michael Bock – DLR

14.30 – 14.40  Short break

Plenary: Future National SAR Missions  Building 124

14.40 – 14.55  HRWS  
   tbd – DLR

14.55 – 15.10  Tandem-L  
   Alberto Moreira – DLR

15.10 – 15.20  Biosphere  
   Andreas Huth – UFZ

15.20 – 15.30  Geosphere  
   Walter, Thomas – GFZ

15.30 – 15.40  Hydrosphere  
   Carsten Montzka – FZJ

15.40 – 15.50  Cryosphere  
   Angelika Humbert – AWI

15.50 – 16.00  AGENDA Presentation  
   Irena Hajnsek/Achim Roth – DLR

16.00 – 16.30  Coffee break
### Session 1.1: Agricultural Applications

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Authors</th>
</tr>
</thead>
</table>
| 16.30 – 16.50 | Evaluation of the retrieval of paddy rice height by means of polarimetric SAR interferometry with TanDEM-X data | Juan M. Lopez-Sanchez, Fernando Vicente-Guijalba, Qinghua Xie – University of Alicante  
Esra Erten – Technical University of Istanbul  
Manuel Campos-Taberner, Javier Garcia-Haro – University of Valencia |
| 16.50 – 17.10 | TanDEM-X for crop height determination: challenges and opportunities | Esra Erten – Technical University of Istanbul  
Christian Rossi – DLR |
| 17.10 – 17.30 | Assessing the operational capabilities TerraSAR-X for monitoring summer crop biophysical parameters | Paolo Villa, Giacomo Fontanelli, Ramin Azar, Daniela Stroppiana – CNR, IREA  
Francesco Montomoli, Marco Brogioni, Giovanni Macelloni – CNR, IFAC |
Irena Hajnsek – ETH Zurich |
| 17.50 – 18.10 | Integration of TanDEM-X Imagery and Other Data Sources for Rangeland Pasture Mapping | Zheng-Shu Zhou, Peter Caccetta, Neil Sims, Alex Held – CSIRO |

### Session 1.2: Coastal Applications

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Authors</th>
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<tbody>
<tr>
<td>16.30 – 16.50</td>
<td>Geomorphic structures and habitats in the Wadden Sea – remote sensing and monitoring with TerraSAR-X</td>
<td>Winny Adolph, Hubert Farke – National Park Authority Lower Saxony Wadden Sea</td>
</tr>
<tr>
<td>16.50 – 17.10</td>
<td>Use of dual- and full polarimetric SAR data for the detection of bivalve beds on intertidal flats</td>
<td>Martin Gade – University Hamburg</td>
</tr>
<tr>
<td>17.10 – 17.30</td>
<td>Automatic waterline detection and change monitoring in the Wadden Sea</td>
<td>Stefan Wiehle, Björn Tings, Claus Gebhardt, Andrey Pleskachevsky, Sven Jacobsen – DLR</td>
</tr>
</tbody>
</table>
| 17.30 – 17.50 | Small scale wind variations around offshore wind farms: A use case for SAR-based wind fields and a comparison with on-site LIDAR measurements | Sven Jacobsen, Egbert Schwarz, Holger Daeselow – DLR  
Julian Hieronimus, Jörg Schneemann – University of Oldenburg |
| 17.50 – 18.10 | Tidal flat DEM generation and application using TanDEM-X science phase data | Ryu Joo-Hyung – KIOST, Korea Ocean Satellite Center  
Lee Seung-Kuk – NASA GSFC |

### Icebreaker Event

18.30 – 21.30
Tuesday, October 18, 2016

Session 2.1: Forest Applications I

09.00 – 09.20 Extracting forest structure information from TanDEM-X Pol-InSAR data: experimental results
Matteo Pardini, Victor Cazcarra Bes, Marivi Tello Alonso, Konstantinos Papathanassiou – DLR
Polyanna Da Conceicao Bispo – University of Leicester

09.20 – 09.40 Global-scale mangrove forest height map generation
Seung-Kuk Lee – NASA/GSFC

09.40 – 10.00 Interferometric water cloud model inversion of TanDEM-X data over a boreal forest: implications on forest scattering at X-band
Maciej Soja, Jan Askne, Lars Ulander – Chalmers University of Technology

10.00 – 10.20 Forest biomass estimation from TanDEM-X interferometry
Lars Ulander, Jan Askne, Maciej Soja – Chalmers University of Technology
Johan Fransson, Henrik Persson – Swedish University of Agricultural Sciences

10.20 – 10.40 Forest Monitoring and Biomass Estimation for REDD+ with InSAR
Svein Solberg, Johannes May, Belachew Gizachew, Wiley Bogren, Johannes Breidenbach – Norwegian Institute for Bioeconomy

Session 2.2: Ocean Applications I

09.00 – 09.20 Backscattering analysis of metallic platforms in Gulf of Mexico via multi-polarization TerraSAR-X data
Domenico Velotto – DLR
Armando Marino – Open University
Ferdinando Nunziata – Università di Napoli Parthenope

09.20 – 09.40 Derivation of sea surface current from spaceborne SAR constellation Data
Xiao-Ming Li, YongZheng Ren – Chinese Academy of Sciences
Thomas Busche – DLR

09.40 – 10.00 Surface velocity measurement in the Baltic Sea with TanDEM-X: results from the HGF-EDA Study
Steffen Suchandt – DLR

10.00 – 10.20 Systematic measurement of ocean backscatter coherence vs. time using TanDEM-X
Roland Romeiser – University of Miami RSMAS
Hartmut Runge, Steffen Suchandt – DLR

10.20 – 10.40 Understanding altimetry signal through TSX wide ScanSAR and Sentinel1 data
Philippe Durand, Amandine Guillot, François Boy, Nadine Pourthie – CNES
Nicolas Longépé, JC Poisson, P. Thibaut – CLS
S. Fleury, K. Guerreiro, F. Remy – LEGOS

10.40 – 11.10 Coffee break
Session 3.1: Forest Applications II
Building 124

11.10 – 11.30 Forest height estimation in planted forests in the Paraná river delta (Argentina) using TerraSAR-X and TanDEM-X interferometry
Diego de Abelleyra, Santiago Verón – INTA
Matias Gaute, Roberto Benítez – Ministry of AgroIndustry of Argentina

11.30 – 11.50 Tropical forest heterogeneity from TanDEM-X InSAR and LiDAR observations in Indonesia
Elsa De Grandi, Edward Mitchard – University of Edinburgh
Dirk Hoekman – Wageningen University

11.50 – 12.10 Forest parameter estimation over Indian forests using TanDEM-X observations
Gulab Singh, Unmesh Khati – IIT Bombay
Laurent Ferro-Famil – University of Rennes 1

12.10 – 12.30 Using a change detection tool for mapping storm damages in forests with TerraSAR-X data
Klaus Martin – SLU
Andreas Schmitt – DLR
Robert Reissig – FBR Consulting

12.30 – 12.50 Generation of a global forest/non forest map from TanDEM-X interferometric data
Christopher Wecklich, Michele Martone, Paola Rizzoli, Gerhard Krieger – DLR

Session 3.2: Ocean Applications II
Building 135 (RMC)

11.10 – 11.30 TerraSAR-X SAR data to monitor typhoons
Valeria Corcione, Ferdinando Nunziata, Maurizio Migliaccio – Università degli studi di Napoli Parthenope

11.30 – 11.50 New possibilities in monitoring Arctic sea ice through TanDEM-X interferometry
Dyre Oliver Dammann, Franz J. Meyer, Andrew R Mahoney, Hajo Eicken – University of Alaska Fairbanks

11.50 – 12.10 Ocean surface wave patterns on TerraSAR-X images and follow-on applications
Claus Gebhardt, Andrey Pleskachevsky – DLR

12.10 – 12.30 Offshore oil spill characterization using space-borne fully polarimetric X and C band synthetic aperture radar
Suman Singha, Rudolf Ressel – DLR

12.30 – 12.50 Wind-wave effect on TanDEM-X ATI data for the Swedish West Coast
Anis Elyouncha, Leif E.B. Eriksson, Gisela K. Carvajal, Lars M.H. Ulander – Chalmers University of Technology
Roland Romeiser – University of Miami

12.50 – 14.00 Lunch break
**Session 4.1: Land Cover Applications**

**Building 124**

14.00 – 14.20 Potentials of TanDEM-X interferometric data for global land classification  
*Michele Martone, Paola Rizzoli, Gerhard Krieger – DLR*

14.20 – 14.40 Potentials of multi-temporal TerraSAR-X images for tropical land cover mapping  
*Ron Hagenseier, Björn Waske – FU Berlin*

14.40 – 15.00 Grassland management and biomass retrieval in an intensive dairy farm in Ireland using TerraSAR-X Staring Spotlight mode data  
*Brian Barrett, Konstantina Bika – University of Glasgow*

15.00 – 15.20 Agricultural soil surface parameters retrieving from TerraSAR-X SAR data  
*Mehrez Zribi – CNRS, CESBIO*

15.20 – 15.40 Maize growth monitoring using multitemporal TanDEM-X Spotlight acquisitions  
*Christoph Hütt, Nora Tilly, Georg Bareth – University of cologne*

**Session 4.2: Ocean Applications III**

**Building 135 (RMC)**

14.00 – 14.20 Development of multi-band equatorially orbiting POLSAR satellite sensors - an integral task for the major space-SAR technology centers world-wide - for assessing and imaging of both natural land & ocean as well as meteorological phenomena  
*Wolfgang-Martin Boerner – University of Illinois at Chicago*

14.20 – 14.40 Support of research vessels in the Antarctic with NRT radar information: an innovative service at DLR's Antarctic station GARS O'Higgins  
*Kathrin Höppner, Birgit Schättler, Egbert Schwarz, Detmar Krause, Erhard Diedrich - DLR*

14.40 – 15.00 Research and pre-operational application of near real time services for maritime situational awareness  
*Egbert Schwarz, Detmar Krause, Sergey Voinov, Holger Daedelow, Sven Jacobsen, Björn Tings – DLR*

15.00 – 15.20 Fishing Vessel Surveillance using TerraSAR-X Stripmap and ScanSAR Mode Data  
*Zheng-Shu Zhou, Chris Wilcox, Peter Caccetta – CSIRO*

15.20 – 15.40 A Sea State Processor for full automatic estimation of the total significant wave height in shallow coastal waters from TerraSAR-X StripMap images  
*Andrey Pleskachevsky, Sven Jacobsen, Björn Tings, Egbert Schwarz, Detmar Krause – DLR*

15.40 – 16.10 Coffee break
Session 5.1: Georisk Applications I

  Mahdi Motagh, Mahmud Haghshenas Haghighi – German Research Center for Geosciences (GFZ)
  Lotfollah Emadali – University of Tehran

16.30 – 16.50 Monitoring of the Jettan Rockslide in northern Norway using high-resolution Staring Spotlight TerraSAR-X satellite data
  Tom R. Lauknes, Yngvar Larsen, Line Rouyet – Norut
  John F. Dehls – Geological Survey of Norway

16.50 – 17.10 Advanced InSAR monitoring solution for landslide geohazards
  Bernhard Rabus, Jayson Eppler – Simon Fraser University

17.10 – 17.30 Monitoring fast motion of landslides in the Three Gorges area using point-like target offset tracking with high-resolution TerraSAR-X data
  Lu Zhang, Minghao Liao, Xuguo, Timo Balz, Menghua Li – Wuhan University

17.30 – 17.50 Evaluation of land subsidence using high resolution TerraSAR-X time series data in Nigeshi area
  Avtar Ram – United Nations University

Session 5.2: Sea Ice Applications

16.10 – 16.30 Polynya evolution at the Terra Nova Bay Antarctica – Analysis of a multi sensor time series
  Thomas Hollands, Stefanie Linow, Wolfgang Dierking – Alfred Wegener Institute (AWI)

16.30 – 16.50 Towards mapping sea ice and Wadden Sea topography using InSAR from the TanDEM-X science phase
  Marcus Huntemann – Alfred Wegener Institute (AWI)
  Gunnar Spreen, Georg Heygster – University of Bremen

16.50 – 17.10 Retrieval and analysis of sea ice floe size distribution from high-resolution SAR imagery
  Byongjun (Phil) Hwang – Scottish Association for Marine Science
  Jinchang Ren, Samuel McCormack, Craig Berry – University of Strathclyde
  Ismail Ben Ayed – École de technologie supérieure
  Erchan Aptoula – Gebze Technical University
  Hans C. Graber – University of Miami

17.10 – 17.30 Observation of drift sea ice by quad-pol TerraSAR-X and TanDEM-X bistatic along-track Interferometry
  Joong-Sun Won – Yonsei University

17.30 – 17.50 Extraction of sea ice and iceberg parameters from TDM interferometric data
  Igor Zakharov, Des Power, Michael Lynch, Mark Howell, Sherry Warren – C-CORE
  Sergey Samsonov – Canada Centre for Mapping and Earth Observation

18.00 – 20.00 Poster Session
Wednesday, October 19, 2016

Session 6.1: Urban Applications

09.00 – 09.20  Stability assessment of roads and railways in Trondheim by using TerraSAR-X
Roghayeh Shamshiri, Hossein Nahavandchi – NTNU, Norwegian University of Science and
Technology
Mahdi Motagh – German Research Centre for Geosciences (GFZ)

09.20 – 09.40  Infrastructure stability monitoring in Romania using TeraSAR-X data
Valentin Poncos, Delia Teleaga, Stefan-Adrian Toma, Florin Serban – TERRASIGNA Ltd.
Manole Stelian Serbulea – Technical University of Civil Engineering
Rodica Nicolae – RATEN-CITON

09.40 – 10.00  Texture analysis for building damage detection in TerraSAR-X Staring Spotlight
mode imagery
Fan Wu, Chao Wang, Hong Zhang, Bo Zhang – Institute of Remote Sensing and Digital
Earth, CAS
Lixia Gong – Institute of Crustal Dynamics

10.00 – 10.20  Structure health monitoring for urban infrastructures with TerraSAR-X images
Qin Xiao qiong, Liao Ming sheng, Zhang Lu, Yang Meng shi – Wuhan University

10.20 – 10.40  Building extraction from single TerraSAR-X ST image based on feature fusion in the
pyramid framework
Bo Zhang, Fan Wu, Chao Wang, Hong Zhang – Institute of Remote Sensing and Digital
Earth, CAS

Session 6.2: Glaciology I

09.00 – 09.20  Flow dynamics and mass balance of Antarctic Peninsula outlet glaciers from
TanDEM-X and TerraSAR-X data time series
Helmut Rott, Jan Wuite, Thomas Nagler, Stefan Scheiblauer – ENVEO IT
Dana Floricioiu, Erling Johnson – DLR

09.20 – 09.40  Use of TerraSAR-X and TanDEM-X data in glaciology – examples from Antarctica,
Greenland and Patagonia
Bernd Scheuchl, Jeremie Mouginot, Xin Li, Romain Milan, Eric Rignot – University of
California, Irvine
Pietro Milillo – JPL

09.40 – 10.00  Geometric and dynamic variations of the northeast Greenland Ice Sheet observed
with TerraSAR-X and TanDEM-X data
Lukas Krieger, Dana Floricioiu – DLR

10.00 – 10.20  Changes in ice dynamics along the northern Antarctic Peninsula
Thorsten Seehaus, Matthias Braun – Friedrich-Alexander-University Erlangen-Nuremberg
Alison Cook – Durham University
Jan Melchio van Wessem – Utrecht University
Sebastián Marinsek – Instituto Antártico Argentino
Pedro Skvarca – Glaciarium, Museo del Hielo Patagónico

10.20 – 10.40  Glacier mass balancing and glaciological applications in High Asia using
experimental TanDEM-X data of the 2015 science phase
Gebhard Warth, Jan Kropacek, Volker Hochschild – University of Tuebingen

10.40 – 11.10  Coffee break
Session 7.1: DEMs and Methods

11.10 – 11.30 Accuracy Assessment of TanDEM-X I-DEM over the UK
Lang Feng, Jan-Peter Muller – University College London

11.30 – 11.50 Evaluation of high resolution TanDEM-X DEM in southwestern China
Peng Li – Ocean University of China
Keren Dai – Southwest Jiaotong University
Yasir Al-Husseinawi, Zhenhong Li – Newcastle University

11.50 – 12.10 High-precision DEM generation using TanDEM-X at 1:50000 Scale
Tao Li, Xinning Tang, Xiaoming Gao, Qianfu Chen – Satellite Surveying and Mapping Application Center
Danqin Wu – Southwest Jiaotong University

12.10 – 12.30 Validation of TanDEM-X IDEM in the Lowveld savanna, Kruger National Park, South Africa, using TLS data sets
Jussi Baade, Victor Onyango, Christian Berger, Christiane Schmullius – Friedrich-Schiller-University Jena

12.30 – 12.50 Quality assessments and geomorphologic applications of digital elevation models in the central Andes with focus on TSX/TDX
Benjamin Purinton, Bodo Bookhagen – Universität Potsdam
Kanayim Teshebaeva – German Research Centre for Geosciences (GFZ)

Session 7.2: Glaciology II

11.10 – 11.30 Elevation changes of glaciers, glacier surges, and snow/firn pack variability from TanDEM-X time series DEMs in Northwest Svalbard
Christopher Nuth, Andreas Kääb – University of Oslo
Jack Kohler – Norwegian Polar Institute
Etienne Berthier – National Center for Space studies (CNES)

11.30 – 11.50 Characterisation and monitoring of Kyagar Glacier surge dynamics and lake outburst events using TanDEM-X
Vanessa Round, Silvan Leinss, Matthias Huss, Martin Funk – ETH Zurich
Christoph Haemmig – GEOTEST AG

11.50 – 12.10 A glacier surge of Bivachny glacier, Pamir Mountains, observed by TanDEM-X and Landsat data
Anja Wendt, Christoph Mayer, Astrid Lambrecht – Bavarian Academy of Sciences and Humanities
Dana Floricioiu – DLR

12.10 – 12.30 Extraction of glacier outlines and surface stripes using high-resolution SAR
Lei Huang – Institute of Remote Sensing and Digital Earth (CAS)

12.30 – 12.50 Greenland ice mapping project: Measuring rapid ice flow with TerraSAR-X and TanDEM-X
Ian Joughin – University of Washington

12.50 – 14.00 Lunch break
Session 8.1: Deformation  

14.00 – 14.20  Active surface deformation in the south-central Andes revealed by multiple-sensor InSAR and field observations
Bodo Bookhagen, Manfred Strecker – University of Potsdam
Ricardo Alonso – Universidad Nacional de Salta

14.20 – 14.40  Identifying ground displacement trends in Bucharest using InSAR
Mihaela Gheorghe – Technical University of Civil Engineering
Iuliana Armus, Diana Popovici – University of Bucharest
Diana Mendes – ISCTE-IUL and BRU-IUL
Razvan-Gabriel Popa – ETH Zürich

14.40 – 15.00  InSAR analysis of land subsidence and sinkhole collapse in Hamadan, Western Iran
Mahdi Motagh, Sanaz Vajedian, Hans-Ulrich Wetzel, Sigrid Roessner – German Research Center for Geosciences (GFZ)
Bahman Akbari – Forest, Range and Watershed management of Iran

15.00 – 15.20  Continuous compaction of aquifer system in Tehran, Iran: an insight from multi-sensor InSAR
Mahmud Haghsenas Haghighi, Mahdi Motagh – German Research Center for Geosciences (GFZ)

15.20 – 15.40  Experiments on corner reflectors for deformation monitoring using X and C-band interferometry
Matthew Garthwaite, Sarah Lawrie, John Dawson, Medhavy Thankappan – Geoscience Australia

Session 8.2: Snow & Hydrology Applications  

14.00 – 14.20  Snow depth and ice volume changes for Aletsch Glacier, Switzerland
Silvan Leinss – ETH Zurich

14.20 – 14.40  Assessment of the TerraSAR multi resolution data for mapping and monitoring water bodies over temperate and tropical flood plains: case of the Alsatian ried in Western Europe, case, and the Meixihu case (Poyang Lake) in Central China
Sadri Haouet – University of Strasbourg
Henri Giraud, Mathias Studer, Hervé Yésou – Unistra

14.40 – 15.00  Wetland mapping and water extent monitoring using multitemporal X- and C- band SAR data
Tanja Riedel, Christiane Schmullius – Friedrich-Schiller-University
Andreas Schmitt, Achim Roth – DLR
Kathrin Weise – Jena-Optronik GmbH

15.00 – 15.20  Detection of surface water changes using TerraSAR-X data for flood hazard monitoring
Katherine Irwin, Georgia Fotopoulos, Alexander Braun, Danielle Beaulne – Queens University

15.20 – 15.40  Inland water pollution detected using TanDEM-X data
Chao Wang, Hong Zhang, Ying Deng – Institute of Remote Sensing and Digital Earth
Ruru Deng – Sun Yat-Sen University

15.40 – 16.10  Coffee Break
Session 9.1: Landslides & Arctic Region Applications

16.10 – 16.30 Monitoring displacements of Daguangbao post-seismic landslide with the assistance of Tandem-X derived high resolution DEM
Keren Dai, Guoxiang Liu, Xiaowen Wang – Southwest Jiaotong University
Zhenhong Li – Newcastle University
Roberto Tomas – Universidad de Alicante
Peng Li – Ocean University of China

16.30 – 16.50 A fast method for mapping and assessing large-scale landslides triggered by 2008 Wenchuan earthquake
Zhengjia Zhang, Tang Yixian, Wang Chao, Hong Zhang – Institute of Remote Sensing and Digital Earth (CAS)

16.50 – 17.10 Deformation and hazards monitoring along the Qinghai-Tibet railway/highway over permafrost regions with TerraSAR
Panpan Tang, Fulong Chen, Bangsen Tian – Institute of Remote Sensing and Digital Earth (CAS)

Cristian Rossi – DLR
Stéphanie Dumont, Gro Birkefeldt – University of Iceland
Mariel Dirscherl – University College London

17.30 – 17.50 Ground motion monitoring using TerraSAR-X - First results
Karlheinz Gutjahr – Joanneum Research ForschungsgesmbH

Session 9.2: Methods

Dimitra Vassilaki – Technological Educational Institute of Athens
Thanasis Stamos – National Technical University of Athens

16.30 – 16.50 Delay correction on Etna with DLRs Next-Generation geodetic SAR product
Markus Even – Fraunhofer IOSB
Xiaoying Cong – TU Munich
Michael Eineder – DLR

16.50 – 17.10 Applying geodetic SAR with TerraSAR-X and TanDEM-X
Christoph Gisinger, Xiaoying Cong, Roland Pail – TU Munich
Ulrich Balss, Stefan Hackel, Sina Montazeri, Xiaoxiang Zhu, Michael Eineder – DLR

17.10 – 17.30 Development of new operational applications with pursuit monostatic configuration
Parivash Lumsdon, Jürgen Janoth – Airbus Defence and Space

17.30 – 17.50 The Use of cascaded learning for TerraSAR-X image classification
Corneliu Octavian Dumitru, Shiyong Cui, Daniela Espinoza-Molina, Gottfried Schwarz, Mihai Datcu – DLR

18.00 – 20.00 Poster Session

Building 124
Building 135 (RMC)
Building 109 (TechLab)
### Session 10.1: Georisk Applications II

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<tr>
<th>Time</th>
<th>Session Title</th>
<th>Presenters</th>
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<tr>
<td>09.00 – 09.20</td>
<td>Synergistic use of C- and X-Band SAR Data for Monitoring Applications</td>
<td>Nadine Kiefl, Jan Anderssohn, Maik Bindrich, Catherine Hartley, Corinna Prietzsch – Airbus DS</td>
</tr>
<tr>
<td>09.20 – 09.40</td>
<td>The FireRisk Project – enhancing an early warning system for wildfire risk in Alberta, Canada</td>
<td>Fabian Niggemann – Vista GmbH</td>
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<td>09.40 – 10.00</td>
<td>Lessons learned on an integrated InSAR and Corner Reflector approach: the deformation monitoring of geohazards in Poland with TerraSAR-X</td>
<td>Zbigniew Perski, Tomasz Wojciechowski, Maria Przylucka – Polish Geological Institute, Petar Marinkovic – PPO.Labs, Yngar Larsen – NORUT</td>
</tr>
<tr>
<td>10.00 – 10.20</td>
<td>On the synergistic use of SAR constellation data for Earth science, natural hazards and infrastructure monitoring</td>
<td>Pietro Milillo, Paul Lundgren – Jet Propulsion Laboratory, Jacqueline Salzer – German Research Centre for Geosciences (GFZ), Eric Rignot, Jeremie Mouginot, Bernd Scheuchl, Xin Li – University of California Irvine, Daniele Perissin – Purdue University, Carmine Sero – University of Basilicata, Giovanni Milillo – Italian Space Agency, Giovanni Milillo – Italian Space Agency, Giovanni Milillo – Italian Space Agency</td>
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<tr>
<td>10.20 – 10.40</td>
<td>Comparison of multi-mode TerraSAR-X data in monitoring landslide in the Three Gorges Area</td>
<td>Li Menghua, Lu Zhang, Mingsheng Liao, Xuguo Shi – Wuhan University</td>
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### Session 10.2: Archeology and Landcover

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<tr>
<th>Time</th>
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<tr>
<td>09.00 – 09.20</td>
<td>Using TerraSAR-X data to support archaeological prospections in the Chinese Altai</td>
<td>Timo Balz, Mingsheng Liao – Wuhan University, Gino Caspari – Hamburg University</td>
</tr>
<tr>
<td>09.20 – 09.40</td>
<td>Quantitative condition and damage assessment of cultural heritage at risk with TerraSAR-X Staring Spotlight</td>
<td>Deodato Tapete, Francesca Cigna – British Geological Survey</td>
</tr>
<tr>
<td>09.40 – 10.00</td>
<td>An evaluation of synthetic aperture radar in the identification of subsurface archaeological features in arid environments</td>
<td>Frances Wiig – University of New South Wales</td>
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<tr>
<td>10.00 – 10.20</td>
<td>Rapid deformation in the foreland of the Pamir and Tian Shan, western China, revealed by Envisat-ASAR and TerraSAR-X radar interferometry</td>
<td>Aron Bufe, Douglas Burbank – University of California Santa Barbara, Bodo Bookhagen – University of Potsdam, David Bekkaert – Jet Propulsion Laboratory, Ekbal Hussain – University of Leeds</td>
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<tr>
<td>10.20 – 10.40</td>
<td>A new sequence based crop classification approach with series of radar images</td>
<td>Damian Bargiel – TU Darmstadt</td>
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<td>10.40 – 11.10</td>
<td>Coffee break</td>
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Session 11.1: Volcanos

11.10 – 11.30  Quantifying rapid morphological changes at active volcanoes using TanDEM-X data
Sylvain Charbonnier, Timothy Dixon, Chuck Connor, Laura Connor, Fanghui Deng, Rocco Malservisi – University of South Florida
Julia Kubanek – Karlsruhe Institute of Technology
Jacob Richardson – NASA Goddard Space Flight Center

11.30 – 11.50  Topographic changes at Shiveluch volcano (Kamchatka) from June 2011 to September 2014 observed by TanDEM-X SAR interferometry
Alexandra Heck, Julia Kubanek, Malte Westerhaus, Ellen Gottschaemmer, Bernhard Heck, Friedemann Wenzel – Karlsruhe Institute of Technology

11.50 – 12.10  Dome growth at Mount Cleveland volcano (Alaska) quantified by time series TerraSAR-X imagery
Zhong Lu, Teng Wang – Southern Methodist University
Mike Poland – US Geological Survey

12.10 – 12.30  Volcano dome deformation monitored with TerraSAR-X Spotlight interferometry and camera observations: Results from a multi-sensor study at Volcán de Colima, Mexico
Jacqueline Salzer, Mehdi Nikkhoo, Thomas Walter – German Research Centre for Geosciences (GFZ)
Daniele Perissin – Purdue University
Pietro Milillo – Jet Propulsion Laboratory
Nick Varley – Universidad de Colima

12.30 – 12.50  VOLCAPSE: High resolution time lapse monitoring of dome building volcanoes by satellite radar and camera networks
Thomas Walter – German Research Centre for Geosciences (GFZ)

Session 11.2: Permafrost & Polar Applications

11.10 – 11.30  Monitoring rapid permafrost thaw with TanDEM-X time series
Simon Zwieback – ETH Zurich
Annett Bartsch – ZAMG
Julia Boike, Guido Grosse, Frank Günther, Birgit Heim, Anne Morgenstern – Alfred Wegener Institute (AWI)
Irena Hajnsek – DLR

11.30 – 11.50  Permafrost monitoring by TerraSAR-X in the Northern Qinghai-Tibet Plateau
Chao Wang, Hong Zhang – Institute of Remote Sensing and Digital Earth (CAS)
Lin Zhao, Qingbai Wu – Cold and Arid Regions Environmental and Engineering Research Institute

11.50 – 12.10  Land cover characterization and classification in the Mackenzie Delta Region (Canada) by means of X-, C- and L-band polarimetric synthetic aperture radar (PolSAR)
Tobias Ullmann, Roland Baumhauer – University of Wuerzburg
Achim Roth – DLR

12.10 – 12.30  Active layer thickness estimation from X-Band SAR backscatter intensity
Barbara Widhalm, Annett Bartsch – ZAMG
Marina Leibman, Artem Khomutov – Russian Academy of Sciences

12.30 – 12.50  TanDEM-X observations of lake ice cover in support of winter road management
Joost van der Sanden, Naomi Short, Kevin Murnaghan, Hugo Drouin – Russian Academy of Science Canada Centre for Remote Sensing