PROGRAMME OVERVIEW

Monday, 20 June 2022

Time		
08:30-09:00	**Registrations**	
	Auditorium (Blue Box)	
09:00-10:00	**Opening ceremony**	
10:00-11:00	**Keynote Speeches**	
11:00-12:30	ORAL 00 Monitoring based on deep learning and artificial intelligence	
12:30-13:30	Lunch break	
	Auditorium (Blue Box)	Red Box
13:30-15:00	ORAL 01 Monitoring of landslides, rockfalls, and other geonatural hazards	ORAL 02 QC/QA and optimization techniques in deformation analysis
15:00-15:30	Coffee break	
15:30-15:45	Sponsor presentations (Red Box)	
15:45-17:00	ORAL 03 Multi-sensor systems and new concepts for deformation measurements	ORAL 04 Monitoring of ground movements associated with mining activities – I
11:00-17:00	Poster Sesión 1 (Hallway)	
20:00	**Welcome reception**	

Tuesday, 21 June 2022

Time	Auditorium (Blue Box)	Red Box
09:00-10:30	ORAL 05 Spaceborne radar monitoring	ORAL 06 New length metrology sensors and methods for deformation monitoring - I
10:30-11:00	Coffee break	
11:00-12:30	ORAL 07 Terrestrial laser scanning for deformation monitoring - I	ORAL 08 New length metrology sensors and methods for deformation monitoring - II
12:30-13:30	Lunch break	
13:30-15:00	ORAL 09 Deformation measurements for construction engineering	ORAL 10 GNSS-based ground deformation analysis
15:00-15:30	Coffee break	
15:30-17:00	ORAL 11 Novel approaches for monitoring cultural heritage	ORAL 12 Monitoring of ground movements associated with mining activities – II
09:00-17:00	Poster Sesión 2 (Hallway)	
20:00	**Dinner**	

Wednesday, 22 June 2022

Time	Auditorium (Blue Box)	Red Box
09:00-10:30	ORAL 13 Laser scanning for deformation monitoring	ORAL14 Vibration monitoring and dynamics
10:30-11:00	Coffee break	
11:00-12:30	ORAL 15 New sensors for deformation measurements	ORAL 16 Advanced methods for the analysis of deformation measurements
12:30-13:30	Lunch break	
13:30-15:00	ORAL 17 UAV-based deformation monitoring	ORAL 18 Monitoring of landslides, rockfalls, and other geonatural hazards - II
09:00-15:00	Poster Sesión 3 (Hallway)	
	Auditorium (Blue Box)	
15:00-16:00	**Keynote speech**	
16:00-17:00	**Awards - Closing ceremony**	

TECHNICAL SESSIONS

Keynote speeches (Blue Box)

Challenges for monitoring particle accelerators components
Dominique Missiaen, Conseil Européen pour la Recherche Nucléaire (CERN)

Geodetic study of the magmatic plumbing system for La Palma 2021 eruption
José Fernández, Institute of Geosciencs (IGEO) CSIC-UCM, Spain

Geomatics for monitoring the impacts on environmental and cultural heritage
Alessandro Capra, University of Modena and Reggio Emilia (UNIMORE), Italy

ORAL 00 (Blue Box) Monitoring based on deep learning and artificial intelligence

Monday 11:00 -12:30   *Chairs: Andreas Wieser/Roberto Pierdicca*

Adaptive spatial discretization using reinforcement learning
Jemil Avers Butt, Andreas Wieser

A discussion on the uses of smart sensor network, cloud-computing, digital twin and artificial intelligence for the monitoring of long bridges
Xiaolin Meng, Ming Yang, Yilin Xie, Yulong Ge, Shengli Wang, Jian Wang

Towards an automated machine learning and image processing supported procedure for crack monitoring
Luigi Parente, Cristina Castagnetti, Eugenia Falvo, Francesca Grassi, Francesco Mancini, Paolo Rossi, Alessandro Capra

Automated damage detection for port structures using machine learning algorithms in heightfields
Frederic Hake, Paula Lippmann, Hamza Alkhatib, Vincent Oettel, Ingo Neumann

Steel bridge structural damage detection using Ground-Based Radar Interferometry (GBRI) vibration measurements and deep learning Convolutional Neural Networks
George Piniotis, Vassilis Gikas

12:30 - 13:30   LUNCH BREAK

Monday 13:30 - 15:00　　　　　　　　　　　　*Chairs: Panos Psimoulis/Josep Gili*

Volcano monitoring of the 2021 La Palma eruption by the Instituto Geográfico Nacional
Laura García-Cañada, Elena González-Alonso, Itahiza Domínguez Cerdeña, Francisco Quirós, Héctor Lamolda, Carmen del Fresno, Anselmo Fernández-García, Antonio Jesús Molina-Arias, Alicia Felpeto, Jorge Pereda de Pablo, Jorge Domínguez-Valbuena, Pedro Torres-González, Fernando Prieto Llanos, Lucía Sáez-Gabarrón, Eduardo Díaz-Suarez, Rubén López-Díaz, David Moure-García, Stavros Meletlidis, María José Blanco, Carmen López

MOMPA: InSAR monitoring in the Eastern Pyrenees
Anna Barra, Ivan Fabregat, Anna Echeverria, Jordi Marturià, Qi Gao, Guido Luzi, María Cuevas, Pere Buxó, Laura Trapero, Muriel Gasc, Pedro Espin, M. Crosetto

Forecasting post-earthquake rockfall activity
Michael J Olsen, Chris Massey, Ben Leshchinsky, Joseph Wartman, Andrew Senogles

Rockfall monitoring: comparing several strategies for surveying detached blocks and their volume, from TLS point clouds and GigaPan pictures
Oriol Pedraza, Álvaro P. Aronés, Càrol Puig, Marc Janeras, Josep A. Gili

Long and close-range terrestrial photogrammetry for rocky landscape deformation monitoring
Miriam Cabrelles, José Luis Lerma, Luis García-Asenjo, Pascual Garrigues, Laura Martínez

Monday 13:30 - 15:00　　　　　　　　　　　　*Chairs: Wolfgang Niemeier/Hans Neuner*

Quantification of the dependence of the results on several network adjustment applications
Stéphane Durand, Michael Lösler, Mark Jones, Paul-Henri Cattin, Sébastien Guillaume, Laurent Morel

On the Quality Checking of Persistent Scatterer Interferometry by spatial-temporal modelling
Mohammad Omidalizarandi, Bahareh Mohammadivojdan, Hamza Alkhatib, Jens-André Paffenholz, Ingo Neumann

Transferability of an estimation procedure for distance deviations of terrestrial laser scanners from laboratory to on-site conditions
Finn Linzer, Hans-Berndt Neuner

Multi-epoch deformation analysis with geodetic datum invariance
Track Mini-symposium on advanced methods for analysis of deformation measurements
Hiddo Velsink

15:00 - 15:30	COFFEE BREAK

(Blue Box)	**Sponsor presentations**

Monday 15:30 – 15:45

ORAL 03 (Blue Box)	**Multi-sensor systems and new concepts for deformation measurements**

Monday 15:45 - 17:00	*Chairs: Werner Lienhart/Xiaolin Meng*

Space Geodetic Observation and interpretation in Geodynamics and Engineering: Application examples
José Fernández, Antonio G. Camacho, Juan F. Prieto, Joaquín Escayo, Mimmo Palano, Ignacio Marzán

Accuracy Improvement of Mobile Laser Scanning Point Clouds using Graph-based Trajectory Optimization
Felix Esser, José Angel Moraga, Lasse Klingbeil, Heiner Kuhlmann

Integrated survey approaches for monitoring procedures during yard phases
Awal Rahali, Eva Savina Malinverni, Roberto Pierdicca, Alessio Pierdicca, Gabriele Potenza, Matteo Lucesoli

A self-acting mobile robot for monitoring floor flatness
Christoph Naab

ORAL 04 (Red Box)	**Monitoring of ground movements associated with mining activities – I**

Monday 15:45 - 17:00	*Chairs: Wolfgang Niemeier/Damian Tondaś*

Continuous long-term (2016-2021) monitoring of the surface deformations in the Upper Silesian Coal Basin, Poland
Maya Ilieva, Patryk Balak, Paweł Bogusławski, Piotr Polanin, Piotr Gruchlik, Andrzej Kowalski, Damian Tondaś, Krzysztof Stasch, Przemysław Tymków

Soil Moisture Mapping Based on Temperature-Soil Moisture Dryness Index - a case study for the tailing dam in Brumadinho, Brazil
Yu Lan, Jens-André Paffenholz

Multisensor monitoring of ground movements over large areas to conduct the change from the active underground hard coal mining ages to the post-mining era
Volker Spreckels

Set-up and application of multisensor-referencestations (MSST) for levelling, GNSS and InSAR in the former mining regions Saarland and Ruhrgebiet within Germany
Volker Spreckels, Thomas Engel

Early detection, permanent monitoring and documentation of critical locations at the surface in mining areas
Alexander Kipp, Andreas Schlienkamp,, Anna Ens

20:00 - 22:00	*WELCOME RECEPTION (Hotel Only You)*

Tuesday, 21 June 2022

ORAL 05 (Blue Box)	**SAR-based monitoring**

Tuesday 9:00 - 10:30	*Chairs: Michele Crosetto/Josep Gili*

InSAR displacement time series post-processing to back-analyze a slope failure
Dora Roque, Martino Correia, Ricardo Cabral, Steffan Davies, Tiago Cordeiro, Ana Fonseca, Paulo Barreto

Evaluation of Synthetic Aperture Radar Interferometric Techniques for Monitoring of Fast Deformation Caused by Underground Mining exploitation
Kamila Pawłuszek-Filipiak, Maya Ilieva, Natalia Wielgocka, Krzysztof Stasch

Pan-European Deformation Monitoring: The European Ground Motion Service
Michele Crosetto, Lorenzo Solari, Marek Mróz

Registering the ground deformations at the area of the archaeological site "Solnitsata"
Hristo Nikolov, Mila Atanasova

Status of the new German DIN standards project "InSAR – radarinterferometry for the detection of ground movements"
Volker Spreckels

ORAL 06 (Red Box)	**New length metrology sensors and methods for deformation monitoring - I**

Tuesday 9:00 - 10:30	*Chairs: Florian Pollinger/Joffray Guillory*

The European GeoMetre project – developing enhanced large-scale dimensional metrology for geodesy
Florian Pollinger, Sergio Baselga, Clément Courde, Cornelia Eschelbach, Luis García-Asenjo, Pascual Garrigues, Joffray Guillory, Per Olof Hedekvist, Tuomas Helojärvi, Jorma Jokela, Ulla Kallio, Thomas Klügel, Paul Köchert, Michael Lösler, Raquel Luján, Tobias Meyer, Pavel Neyezhmakov, Damien Pesce, Marco Pisani, Markku Poutanen, Günther Prellinger, Anni Röse, Jeremias Seppä, Daniel Truong, Robin Underwood, Kinga Wezka, Jean-Pierre Wallerand, and Mariusz Wiśniewski

High-precision intermode-beating EDM for mitigation of atmospheric delays
Pabitro Ray, David Salido-Monzú, Andreas Wieser

Two multi-wavelength interferometers for large-scale surveying
Anni Röse, Paul Köchert, Günther Prellinger, Tobias Meyer, Frank Pilarski, Stephanie Weinrich, Frank Schmaljohann, Joffray Guillory, Daniel Truong, Jakob Silbermann, Ulla Kallio, Jorma Jokela, Florian Pollinger

Optical distance measurements at two wavelengths with air refractive index compensation
Joffray Guillory, Daniel Truong, Jean-Pierre Wallerand

10:30 - 11:00	COFFEE BREAK

ORAL 07 (Blue Box)	Terrestrial laser scanning for deformation monitoring

Tuesday 11:00 - 12:30   *Chairs: Volker Schwieger/Heiner Kuhlmann*

Real movement or systematic errors? – TLS-based deformation analysis of a concrete wall
Berit Jost, Daniel Coopmann, Christoph Holst, Heiner Kuhlmann

Keypoint-based deformation monitoring using a terrestrial laser scanner from a single station: Case study of a bridge pier
Tomislav Medic, Pia Ruttner, Christoph Holst, Andreas Wieser

Two-epoch TLS deformation analysis of a double curved wooden structure using approximating B-spline surfaces and fully-populated synthetic covariance matrices
Gabriel Kerekes, Jakob Raschhofer, Corinna Harmening, Hans Neuner and Volker Schwieger

Selected aspects of geometrical analyses of surfaces measured using terrestrial laser scanning (TLS)
Janina Zaczek-Peplinska, Maria Elżbieta Kowalska, Krystian Ryczko, Cezary Sekular

ORAL 08 (Red Box)	New length metrology sensors and methods for deformation monitoring - II

Tuesday 11:00 - 12:30   *Chairs: Florian Pollinger/Joffray Guillory*

A Feasibility Study for Accelerated Reference Point Determination Using Close Range Photogrammetry
Cornelia Eschelbach, Michael Lösler

EDM-GNSS distance comparison at the EURO5000 calibration baseline: preliminary results
Kinga Wezka, Luis García-Asenjo, Dominik Próchniewicz, Sergio Baselga, Ryszard Szpunar, Pascual Garrigues, Janusz Walo, and Raquel Luján

Monitoring Gravitational Deformations of the Wettzell 20 m Radio Telescope's Main Reflector Using a Leica RTC360
Agnes Weinhuber, Alexander Neidhardt, Christoph Holst

Validation of GNSS-based reference point monitoring of the VGOS VLBI telescope at Metsähovi
Ulla Kallio, Joona Eskelinen, Jorma Jokela, Hannu Koivula, Simo Marila, Jyri Näränen, Markku Poutanen, Arttu Raja-Halli, Paavo Rouhiainen, Heli Suurmäki

12:30 - 13:30	LUNCH

ORAL 09 (Blue Box)	Deformation measurements for construction engineering

Tuesday 13:30 – 15:00   *Chairs: Xiaolin Meng/Jens-André Paffenholz*

Image segmentation of breakwater blocks by edge-base Hough transformation
Fernando Soares, Vinicius Barbon

Identifying individual rocks within laser scans for a rigorous deformation analysis of water dams
Wolfgang Wiedemann, Christoph Holst

BIM approach applied to urban tunneling interferences
Marco Trani, Silvia Longo, Monica Conti

Assessment of the accuracy of low-cost multi-GNSS receivers in monitoring bridge response
Chenyu Xue, Panos Psimoulis, Qiuzhao Zhang, Xiaolin Meng

Deep machine learning in bridge structures durability analysis
Karolina Tomaszkiewicz, Tomasz Owerko

ORAL 10 (Red Box)	Ground deformation analysis

Tuesday 13:30 - 15:00   *Chairs: Markku Poutanen/Antonio Gil*

2D strain rate and ground deformation modelling from continuous and survey mode GNSS data in El Hierro, Canary Islands
Jose Arnoso, Umberto Riccardi, Umberto Tammaro, Maite Benavent, Fuensanta G. Montesinos, Emilio Vélez

S-Wave detection using continuously operated GNSS stations:
A case study of two Mw 7.1 earthquake events
Vassiliki Krey, Iordanis Galanis, Vangelis Zacharis, Maria Tsakiri

Imaging land subsidence in the Guadalentín River Basin (SE Spain) using Advanced Differential SAR Interferometry
Guadalupe Bru, Juan J. Portela, Pablo Ezquerro, M. Inés Navarro, Alejandra Staller, Marta Béjar-Pizarro, Carolina Guardiola-Albert, José A. Fernández-Merodo, Juan López-Vinielles, Roberto Tomás, Juan M. López-Sánchez

15:00 - 15:30	COFFEE BREAK

ORAL 11 (Blue Box)   Novel approaches for monitoring cultural heritage

Static and Dynamic Monitoring of the Notre Dame de Paris Cathedral
Véronique Le Corvec, Patrick Lézin, François-Baptiste Cartiaux

Preserving the heritage of world's monuments through Structural Health Monitoring – A case study: the Garisenda Tower
François-Baptiste Cartiaux, Gian Carlo Olivetti, Valeria Fort, Patrice M. Pelletier

Multispectral imaging for the documentation of graffiti in an urban environment
Max Rahrig, José Luis Lerma

Concept for the integration of BIM and GIS data for monitoring land deformation around an ongoing infrastructure project
Szymon Glinka, Tomasz Owerko

ORAL 12 (Red Box)   Monitoring of ground movements associated with mining activities – II

Dynamic concepts to handle geodetic networks with continuous monitoring data in areas with ground movements
Wolfgang Niemeier, Dieter Tengen

Kalman filter for integration of GNSS and InSAR data applied for monitoring of mining deformations
Damian Tondaś, Witold Rohm, Maya Ilieva, Jan Kapłon

Geomonplus – Application for Storage, Allocation, Exchange, and Visualization of Historical and Actual 4d-Postion-Data within Mining Areas
Steffen Bechert, Andreas Schlienkamp, Volker Spreckels

Terrestrial Laser Scanning based deformation monitoring for masonry buildings subjected to ground movements induced by underground construction
Yiyan Liu, Sinan Acikgoz, Harvey Burd

Deformation Analysis with Feature Voting
Omer Bar, Gilad Even-Tzur

20:00 - 23:00   *GALA DINNER (Hotel Las Arenas Sala Zeus)*

Wednesday, 22 June 2022

ORAL 13 (Blue Box)	Laser scanning for deformation monitoring

Wednesday 9:00 - 10:30　　　　*Chairs: Jens-André Paffenholz/Roberto Pierdicca*

Supervoxel-based targetless registration and identification of stable areas for deformed point clouds
Yihui Yang, Volker Schwieger

Monitoring the production process of lightweight fibrous structures using terrestrial laser scanning
Laura Balangé, Corinna Harmening, Rebeca Duque Estrada, Achim Menges, Hans Neuner, Volker Schwieger

Assessment of accuracy and performance of terrestrial laser scanner in monitoring of retaining walls
Ali Algadhi, Panos Psimoulis, Athina Grizi, Luis Neves

Extraction of key geometric parameters from segmented masonry arch bridge point clouds
Yixiong Jing, Brian Sheil, Sinan Acikgoz

Assessing sandy beach width variations on intertidal time scales using permanent laser scanning
Mieke Kuschnerus, Roderik Lindenbergh, Sierd de Vries

ORAL 14 (Red Box)	Vibration monitoring and dynamics

Wednesday 09:00 - 10:30　　　　*Chairs: Vassilis Gikas/Xiaolin Meng*

Vibration monitoring of a bridge using 2D profile laser scanning: Lessons learned from the comparison of two spatio-temporal processing strategies
Nicholas Meyer, Lorenz Schmid, Andreas Wieser, Tomislav Medic

Dynamic monitoring of civil infrastructures with geodetic sensors
Caroline Schönberger, Werner Lienhart, Thomas Moser

Data fusion of MEMS accelerometer and hydrostatic leveling for structural health monitoring – the test rig investigations
Leonhard Pleuger, Mario Haupt, Jens-André Paffenholz

High-rate real-time single-frequency PPP for structural motion detection in horizontal directions
Mert Bezcioglu, Baris Karadeniz, Cemal Ozer Yigit, Ahmet Anil Dindar, Burak Akpinar

10:30 - 11:00　　COFFEE BREAK

Wednesday 11:00 - 12:30   *Chairs: Werner Lienhart/Volker Schwieger*

Bridge deformations during train passage: monitoring multiple profiles using concurrently operating MIMO-SAR sensors
Andreas Baumann-Ouyang, Jemil Avers Butt, Andreas Wieser

Drill Bit Grading using LiDAR and Imagery on the Apple Smart Devices
Fengman Jia, Derek D. Lichti, Roman Shor, Arsh Khawaja, Min Kang, Max Kepler

Monitoring of underwater animal forests: geometry and biometry
Rossi Paolo, Castagnetti Cristina, Cattini Stefano, Di Loro Giorgio, Grassi Francesca, Parente Luigi, Righi Sara, Rovati Luigi, Simonini Roberto, Capra Alessandro

Low-cost GNSS RTK receiver in structure monitoring under demanding conditions
Przemysław Kuras, Daniel Janos, Łukasz Ortyl

ORAL 16 (Red Box)   **Advanced methods for the analysis of deformation measurements**

Wednesday 11:00 - 12:30   *Chairs: Wolfgang Niemeier/Luis García-Asenjo*

Classical Concepts for Deformation Monitoring - Strategies, Status and Limitations
Wolfgang Niemeier

Design, establishment, analysis and quality control of a high-precision reference frame in Cortes de Pallás , Spain
Luis García-Asenjo, Laura Martínez, Sergio Baselga, Pascual Garrigues, Raquel Luján

GLOMON-Monitoringportal for storage, management, advanced processing and intelligent visualization of GNSS- and other sensors data
Michael Schulz, Florian Schäfer, Jürgen Rüffer

Investigation of space-continuous deformation from point clouds of structured surfaces
Elisabeth Ötsch, Corinna Harmening, Hans Neuner

Including virtual target points from laser scanning into the point-wise rigorous deformation analysis at geo-monitoring applications
Lukas Raffl, Christoph Holst

12:30 - 13:30   LUNCH BREAK

Comparison of TLS and sUAS point clouds for monitoring embankment dams
Dimitrios Bolkas, Matthew O'Banion, Jakeb Prickett, Gregory Ellsworth, Gerald Rusek, Nicholas Lawler, Hannah Corson, David Williams, Brett Anderton

Planning UAV surveys: can we rely on wind forecasts?
Maria Henriques, Dora Roque

The potential of UAV-based Laser Scanning for Deformation Monitoring – Case Study on a Water Dam
Ansgar Dreier, Heiner Kuhlmann, Lasse Klingbeil

PS-InSAR and UAV technology used in the stability study of Ankang expansive soil airport
Jinzhao Si, Shuangcheng Zhang, Yufen Niu

4D point cloud analysis of the September 2020 Medicane impact on Myrtos beach in Cephalonia, Greece
Emmanuel Vassilakis, Aliki Konsolaki, Stelios Petrakis, Evangelia Kotsi, Christos Fillis, Stelios Lozios, Efthymios Lekkas

ADATools: a set of tools for the analysis of terrain movement maps obtained with SAR Interferometry
Oriol Monserrat, Anna Barra, Cristina Reyes-Carmona, María Cuevas, Marta Bejar-Pizarro, José Navarro, Roberto Tomas, Jorge Pedro Galve, Lorenzo Solari, Roberto Sarro, Rosa Maria Mateos, José Miguel Azañon, Gerardo Herrera, Bruno Crippa

Monitoring the spatiotemporal variability of beach mesoforms by analyzing Sentinel-2 images
Josep E. Pardo-Pascual , Carlos Cabezas-Rabadán, Jesús Palomar-Vázquez, Alfonso Fernández Sarría

Hydrological-Driven Landslide in Northwestern China Measured by InSAR Time Series Analysis
Qianyou Fan, Shuangcheng Zhang, Yufen Niu

Implementation of a fixed-location time lapse photogrammetric rock slope monitoring system in Castellfollit de la Roca, Spain
Gerard Matas, Albert Prades, M. Amparo Núñez-Andrés, Felipe Buill, Nieves Lantada

First Experiment of Long-Range Panoramic Images on a High-Precision Geodetic Reference Frame
Peyman Javadi, José Luis Lerma, Luis García-Asenjo

Keynote speech (Blue Box)

Wednesday 15:00 -16:00

The role of IoT sensors and virtual reality in the planning, analysis and visualization of deformation monitoring data
Werner Lienhart, Graz University of Technology (TU Graz), Austria

15:00 - 17:00   CLOSING CEREMONY

POSTER SESSIONS

Deformation analysis in landslides NE Bulgaria using GNSS data complemented by InSAR for better interpretation results
Mila Atanasova, Hristo Nikolov, Ivan Georgiev, Anton Ivanov

Current State of Multi-constellation and multi-frequency Precise Point positioning
Fernando Chacón, Leire Anne Retegui, Antonio Herrera and M Clara de Lacy

Point displacements during classical measurements – a practical approach to pseudo epochs between measurements
Robert Duchnowski, Patrycja Wyszkowska

Analysis of the Lisbon metropolitan area using the P-SBAS service of the Geohazards Exploitation Platform (GEP)
Jorge P. Galve, Cristina Reyes-Carmona, Anna Barra, Marta Béjar-Pizarro, Oriol Monserrat, Ricardo Garcia Campus, Jose Luis Zezere, Paulo Sergio de Figueiredo Ferreira, Sara Alexandra Figueira Damaso, Susana Isabel Magro Siborro, Rosa M. Mateos,, José Miguel Azañón

Crustal velocity field in Baza and Galera faults: A new estimation from GPS position time series in 2009 - 2018 timespan
Antonio J Gil, M Jesús Borque, Manuel Avilés, M Clara de Lacy, Jesús Galindo-Zaldívar, Pedro Alfaro, F.J. García-Tortosa, Alberto Sánchez-Alzola, Iván Martín-Rojas, Iván Medina-Cascales, Patricia Ruano, Víctor Tendero, Asier Madarieta-Txurruka, Sergio Blanca, Moisés Madrigal, Fernando Chacón, Lucía Miras

High-rate Real-Time PPP For Dynamic Motion Detection In Vertical Direction
Baris Karadeniz, Mert Bezcioglu, Cemal Ozer Yigit, Ahmet Anil Dindar, Burak Akpinar

Experimental Assessment of the Accuracy of a Ground-Based Radar Interferometer (GBRI) in a fully controlled laboratory environment
George Piniotis, Vassilis Gikas

Deformation monitoring with robotic total stations. Pushing the limits
Josep Raventós, Enrinc Sans

Monitoring embankment dams from space using satellite radar interferometry: Case studies from RemoDams project
Antonio M. Ruiz-Armenteros, José Manuel Delgado-Blasco, Matus Bakon, Francisco Lamas-Fernández, Miguel Marchamalo-Sacristán, Antonio J. Gil-Cruz, Juraj Papco, Beatriz González-Rodrigo, Milan Lazecky, Daniele Perissin, Joaquim J. Sousa

Monitoring instabilities by MT-InSAR in a mesa placed town (Arjona, Guadalquivir valley, South Spain)
Antonio Miguel Ruiz-Armenteros, Mario Sánchez-Gómez, José Manuel Delgado-Blasco, Matus Bakon, Ana Ruiz-Constán, Jesús Galindo-Zaldívar, Milan Lazecky, Miguel Marchamalo-Sacristán, Joaquim J. Sousa

Permanent terrestrial LiDAR monitoring in mining, natural hazard prevention and infrastructure protection – Chances, risks, and challenges: A case study of a rockfall in Tyrol, Austria
Daniel Schröder, Katharina Anders, Lukas Winiwarter, Daniel Wujanz

Structural analysis of monitoring results of long-span roof structures
Roman Shults

Monitoring of land subsidence in the city of Recife/Brazil using Sentinel-1 SAR interferometry
Wendson de Oliveira Souza, Antonio Miguel Ruiz-Armenteros, Jaime Joaquim da Silva Pereira Cabral

CGPS Crustal velocity field in the Iberian Peninsula
Fernando Chacón, M Clara de Lacy, Manuel Avilés, Antonio J Gil

Pathological diagnostic tool based on the combination of different disciplines. Management of the preservation of cultural heritage. Application in the structural consolidation of rock structures
Jorge Juan Romo Berlana, Manuel Sánchez Fernández, José Juan de Sanjosé Blasco, Fernando Berenguer Sempere

Sensitivity analysis of control networks in terms of minimal detectable displacements
Krzysztof Książek, Sławomir Łapiński

Assessing vertical terrain displacement from TLS data by applying M$_{split}$ estimation – theoretical analysis
Patrycja Wyszkowska, Robert Duchnowski