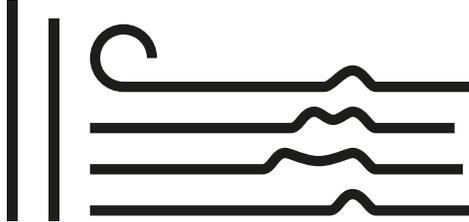# JISDM 2019

4th Joint International Symposium on Deformation Monitoring

15-17 May 2019
Eugenides Foundation
Athens, Greece

www.jisdm2019.survey.ntua.gr

PROCEEDINGS

JISDM 2019

4th Joint International Symposium on Deformation Monitoring

15-17 May 2019
Eugenides Foundation
Athens, Greece

www.jisdm2019.survey.ntua.gr

Click on the title to download the respective paper

Wednesday, 15 May 2019

08:00 - 09:00 | **Registrations**

09:00 - 10:00 | **Opening ceremony**

Chairs: *Wolfgang Niemeier, Vassilis Gikas*

10:00 - 11:00 | **Keynote Speech 1 - Inspections and structural condition assessment of bridges: The role of ambient vibration testing and continuous monitoring**

Carmelo Gentile, Professor of Structural Engineering DABC, Politecnico di Milano, Italy

11:00 - 12:00 | **Keynote Speech 2 - Big satellite data for ground deformation assessment at global scale**

Charalampos (Haris) Kontoes, Research Director, National Observatory of Athens, Greece

12:00 - 13:00 | **Lunch break**

AMFITHEATER

13:00 - 14:30 | **Session 1.1 - QC/QA and optimization techniques in deformation analysis**

Chairs: *Wolfgang Niemeier, Günther Retscher*

Strategies and methods for multi-epoch deformation analysis with geodetic networks
Wolfgang Niemeier, Hiddo Velsink

Evaluating the performance of a space- and time-continuous deformation models
Corinna Harmening, Hans Neuner

Single point adjustment within existing networks by means of the repro-BLE
Burkhard Schaffrin, Cuiping Guo

Impact of mathematical correlations on the statistic of the congruency test case study: B-splines surface approximation from bridge observations
Gael Kermarrec, Johannes Bureick, Hamza Alkhatib

Accuracy of Msplit estimates in the context of vertical displacement analysis
Patrycja Wyszkowska, Robert Duchnowski

Towards a More Rigorous Error Propagation Within the Errors-In-Variables Model for Geodetic Applications
Burkhard Schaffrin, Kyle Snow

13:00 - 14:30   ## Session 1.2 - New concepts for GNSS-based monitoring

Chairs: *Volker Schwieger, Michael Gianniou*

Reducing Multipath Effect of Low-Cost GNSS Receivers for Monitoring by Considering Temporal Correlations
Li Zhang, Volker Schwieger

Modelling antenna vibrations using the signal-to-noise ratio (snr) of GNSS signals
Ioulia Peppa, Panos Psimoulis, Xiaolin Meng

On the Improvement of Precise Point Positioning augmented with tropospheric ZWD using CORS networks applied to bridge monitoring
Xu Tang, Craig Matthew Hancock, Gethin Wyn Roberts, Shuanggen Jin, Huib de Ligt

Investigating the ability of high-rate GNSS-PPP for determining the vibration modes of engineering structures: small scale model experiment
Cemal Ozer Yigit, Ahmet Anil Dindar, Ahmed El-Mowafy, Mert Bezcioglu, Vassilis Gikas

Distance Limitations when using CORS Networks and GNSS Receivers for Deformation Monitoring
Nikolaos Kanellopoulos, Georgios Pantazis, Evangelia Lambrou

Predicting displacement deformation of bridge based on CEEMDAN-KELM model using GNSS monitoring data
Qian Fan, Xiaolin Meng, Dinh Tung Nguyen, Yilin Xie, Jiayong Yu

14:30 - 15:00   **Coffee break**

15:00 - 16:30   ## Session 1.3 - Point cloud-based space-temporal deformations - I

Chairs: *Heiner Kuhlmann, Vassilios Pagounis*

Robust feature-based correspondence search for point-cloud-based deformation monitoring
Zan Gojcic, Caifa Zhou, Andreas Wieser

Analyzing shape deformation and rigid body movement of structures using commonly misaligned terrestrial laser scanners: the radio telescope case
Christoph Holst, Tomislav Medic, Axel Nothnagel, Heiner Kuhlmann

Terrestrial Laser Scanning time series for landslide advanced analysis
Julien Point, Jean-Philippe Malet, Mathilde Desrues, Ryan Kromer, Gilbert Ferhat

Deformation monitoring of noise barriers with profile laser scanning
Florian Schill, Andreas Eichhorn

Geodetic surface based methods for structural analysis during construction phase
Claudius Schmitt, Hans Neuner, Benjamin Kromoser

Influence of atmospheric refraction on terrestrial laser scanning at long range
Ephraim Friedli, Robert Presl, Andreas Wieser

15:00 - 16:30 | ## Session 1.4 - Reference frames and geodynamics - I

Chairs: *Demitris Delikaraoglou, Vassilios Andritsanos*

Input for intra-frame velocity models for the U.S. N.S.R.S. in 2022
Daniel Roman

Deformation detection through the realization of reference frames
Nestoras Papadopoulos, Melissinos Paraskevas, Katsafados Ioannis, Nikolaidis Georgios, Anagnwstou Eyaggelos

Kobe earthquake monitoring – real time geodetic networking
Hiroyuki Hasegawa, Jan De Turck, Yoshihiro Ueda

Analysis of deformations after the Bodrum-Kos earthquake (July 20, 2017 Mw6.6) using Geosensors data
Duygu Akyürek, Serdar Erol, İrem Köz, Bihter Erol

Geohazard Detection Based on High-Precision Estimates of the Instantaneous Velocity of Autonomous GNSS Stations
Roland Hohensinn, Alain Geiger

16:30 - 17:00 | **Coffee break**

AMFITHEATER

17:00 - 18:30 | ## Session 1.5 - Vibration monitoring and dynamics

Chairs: *Xiaolin Meng, Panos Psimoulis*

RTS measurement of aeroelastic effects on a 30m-high historical industrial chimney
Stathis Stiros, Vasso Saltogianni, Dimitra Founda

Bootstrap tests for model selection in robust vibration analysis of oscillating structures
Boris Kargoll, Mohammad Omidalizarandi, Jens-André Paffenholz, Ingo Neumann, Gaël Kermarrec, Hamza Alkhatib

Detection of structural vibration with high-rate GNSS Precise Point Positioning – methodology and case study results
Jacek Paziewski, Pawel Wielgosz, Rafal Sieradzki, Radoslaw Baryla

Multi-GNSS implementation and assessment of the phase residual method for structures dynamic load and natural frequency estimation
Marco Mendonca, Emerson P. Cavalheri, Ana P. Larocca, Marcelo C. Santos

Experimental validation of a prototype photonic Phase Optical Time Domain Reflectometer for SHM in large-scale infrastructures
Massimo Leonardo Filograno, George Piniotis, Vassilis Gikas, Vassilis Papavassiliou, Charis Gantes, Maria Kandyla, Christos Riziotis

Introduction to the New Monitoring System for Long-span Bridges - from GeoSHM to iSHM
Xiaolin Meng, Yilin Xie, Dinh Tung Nguyen, John S. Owen, Panos Psimoulis, George Ye, Laiyi Wu, Shuguo Pan, Jun Qian, Paul Bhatia, Yangjun Xu

17:00 - 18:30 **Session 1.6 - Ground and spaceborne radar – I**

Chairs: *Charles Toth, Georgios Pantazis*

Urban deformation monitoring using Sentinel-1 SAR data: a case study
Michele Crosetto, Oriol Monserrat, María Cuevas-González, Anna Barra, Vrinda Krishnakumar, Bruno Crippa

Fast-moving landslides mapping contribution using Sentinel-2 satellite images
Issaak Parcharidis, Constantinos Loupasakis, Ioannis Gougoustamos

Analysis of two decades of SAR data for measuring ground deformation in wider Athens, Greece
Ioannis Papoutsis, Charalampos Kontoes, Demitrios Paradissis

Multi-station Ground-based Real-aperture Radar for quasi-static Deformation Measurement
Marco Scaioni, Mattia Manieri, Eufemia Tarantino

Multi-temporal InSAR analysis for monitoring ground deformation in Amorgos island, Greece
Stavroula Alatza, Ioannis Papoutsis, Demitris Paradissis, Charalampos Kontoes

19:30 **Welcome Reception**

Thursday, 16 May 2019

09:00 - 10:30 **Session 2.1 - Monitoring of cultural heritage**

Chairs: *Konstantinos Tokmakidis, Dionysios Balodimos*

Multispectral monitoring of the successive phases of the Holy Aedicule rehabilitation `Invited Lecture`
Antonia Moropoulou, Andreas Georgopoulos, Evangelia Lambrou, George Pantazis, Sofia Soile, Sevasti Tapeinaki, Elisavet Tsilimantou, Kyriakos Labropoulos

The significance of 3D network adjustment by using different least squares methods for the constructions' monitoring application on the monitoring network of the Holy Aedicule in Jerusalem
Dimitrios Zachos, George Pantazis, Evangelia Lambrou

100 Years of Geodetic Measurements in the Piazza del Duomo (Pisa, Italy): Reference Systems, Data Comparability and Geotechnical Monitoring
Gabriella Caroti, Andrea Piemonte,Nunziante Squeglia

Geodetic Monitoring and Structural Analysis on the Great Temple of Yeha, Ethiopia
Klaus Mechelke, Simeon Burkhardt, Gerhard Eisele, Marcus Illguth, Mike Schnelle, Harald Sternberg

09:00 - 10:30 | **Session 2.2 - Deformation monitoring for construction engineering**

Chairs: *Alessandro Capra, Andrea Masiero*

Static and Dynamic Interaction of Soil and Structures during the Design, Construction and Operation of various Engineering Projects Invited Lecture
Prodromos Psarropoulos

A methodology for correcting refraction in vertical angles for precise monitoring in tunnels
Konstantinos Nikolitsas, Evangelia Lambrou

Development and research of the methods for analysis of geodetic monitoring results for the subway tunnels
Roman Shults

Geodetic monitoring of displacements and deformations for assestment of effect from suspend of exploitation of Pernik mines
Ivan Kaltchev, Maria Kaltcheva

Re-discovering "big data" and "data science" in geodesy and geomatics
Ioannis D. Doukas

10:30 - 11:00 | **Coffee break**

AMFITHEATER

11:00 - 12:30 | **Session 2.3 - Bridge monitoring - I**

Chairs: *Gethin Wyn Roberts, Prodromos Psarropoulos*

Bridge Monitoring & Assessment via OSMOS Optical Strands
François-Baptiste Cartiaux, Sofia Koutsonika, Georgios Andrikopoulos, Patrice Marc Pelletier

Long-term Monitoring of a Multi-span Beam Bridge Using a Network of Digital Inclinometers: First Results and Perspectives
Vassilis Gikas, Athanasios Mpimis, George Piniotis, Harris Perakis, Fanis Papadimitriou, Kostas Drimeris, Panos Sotiriou

Application of a Bayesian-based Neural Network on SHM of long-span bridges
Dinh Tung Nguyen, Xiaolin Meng, John Owen, Yilin Xie, Panagiotis Psimoulis, George Ye

Assessment of bridges on the "Demir Kapija-Smokvica" motorway section on Pan-European Corridor X using loading test
Toni Arangjelovski, Darko Nakov, Simona Bogoevska, Marija Docevska, Tilemachos Tsiknias, Goran Markovski

Performance analysis of bridge monitoring with the integrated GPS, BDS and GLONASS
Ruijie Xi, Xiaolin Meng, Weiping Jiang, Qiyi He, Xiangdong An

11:00 - 12:30 ## Session 2.4 - Reference frames and geodynamics - II

Chairs: *Daniel Roman, Christos Pikridas*

The ups and downs of coast regions: The implications of vertical land motion on coastal hazards
Paul H. Denys, Rob G. Bell, John Hannah, Chris F. Pearson

On the role of the length of GPS time-series in the accuracy of tectonic velocities' estimation: Examples from the HEPOS network
Michail Gianniou, Eleni Mitropoulou, Dimitrios Mastoris

Recent Surface Deformation along the Carmel-Gilboa Fault System, Israel
Gilad Even-Tzur, Jörg Reinking

Calculating a geoid model for Greece using gravity and GPS observations
Nestoras Papadopoulos, Melissinos Paraskevas, Ioannis Katsafados, Georgios Nikolaidis

A model of vertical land movements along the German coast based on a combined solution of GNSS and InSAR data
Dieter Tengen, Anika Riedel, Björn Riedel, Wolfgang Niemeier, Markus Gerke

12:30 - 13:30 **Lunch break**

AMFITHEATER

13:30 - 15:00 **SPONSORS PRESENTATIONS**
Chairs: Andreas Georgopoulos, Gilbert Ferhat

Non-intrusive technologies and solutions for Monitoring and Digital Reality models
Marco Di Mauro, Monitoring and Control Segment Manager, Leica Geosystems Ltd

Interoperability tools for deformation monitoring from UAS to road network change detection
Dimitris Stefanakis, CEO & Co-founder, UcanDrone PC, Greece

Infrastructure Assessment, Monitoring and Management under the heavy maintenance of Olympia Odos Concession Project
Michalis Bartzis, Alexandra Mavroeidi, Engineering Geologist, Olympia Odos, Greece

OSMOS Integrated Monitoring Solutions
Arnaud Surpas, OSMOS Hellas SA, Greece

Structural health monitoring-an essential tool in the maintenance strategy of the Rion-Antirion Bridge
Akis Panagis, GEFYRA S.A., Greece

Rheticus®: Monitoring from space geological transformations of earth surface for detecting instabilities of critical infrastructure
Yiota Spastra, Planetek Hellas E.P.E., Greece

Deformation monitoring using Laser Scanners. OPSIS, a unique solution for leaving no spot unattended
George Papastamos, Moniterra Ltd, Engineering Instrumentation & Monitoring, Cyprus

15:00 - 15:30 **Coffee break**

15:30 - 17:00   **Session 2.5 - Multi-sensor systems and new concepts for deformation measurements - I**

Chairs: *Werner Lienhart, Evangelia Lambrou*

Benefits of strain and temperature monitoring of conventional tunnel cross sections using distributed fibre optic sensors
Fabian Buchmayer, Christoph Martin Monsberger, Werner Lienhart

Sensor noise characteristics and error propagation: An educational approach based on collocated MEMS accelerometers
Stathis Stiros, Georgia Fotopoulou, Christodoulos Glaros

A methodology for WSN deployment in 2D large-scale constraining environments, using computational geometry algorithms
Athanasios Iliodromitis, Georgios Pantazis, Vassilios Vescoukis, Evangelia Lambrou

Fast track seismic assessment protocol based on a low cost structural health monitoring system
Spyros Damikoukas, Stavros Chatzieleftheriou, Nikos D. Lagaros

Temporal and Spatial Analysis of GNSS network data for detection of anomalies
Mohammed Habboub, Panos Psimoulis, Richard Bingley

CONFERENCE HALL

15:30 - 17:00   **Session 2.6 - Dam monitoring**

Chairs: *Maria João Henriques, Jens-André Paffenholz*

Automatic follow-up of the tri-directional displacements of the Sainte-Croix arch dam (Verdon - France) by motorized total station
Rémy Boudon, Simon Blin, Emilie Pons, Aurélie Ajzenberg

Investigation of the relationship between rainfall and long-term settlements of earthfill dams based on geodetic measurements: the case of Pournari I dam (Greece)
Niloufar Zanganehazadabadi, Stella Pytharouli, Panagiotis Michalis

Polyphyton Dam: Monitoring of the Right Abutment Slide
Spyridon Raftopoulos

Adaptive parametric identification in dam monitoring by Kalman filtering
Sonja Gamse, Wan-Huan Zhou

19:30   **Dinner**

Friday, 17 May 2019

09:00 - 10:30 | ## Session 3.1 - UAV for change detection and deformation monitoring

Chairs: *Charalabos Ioannidis, Stella Pytharouli*

Small and low-cost navigation system for UAV-based emergency disaster response applications
Yang Gao, Zhitao Lyu, Hamid Assilzadeh, Yang Jiang

Low cost UAV and image classification for monitoring the deterioration on building façades
Andrea Masiero, Francesca Fissore, Antonio Vettore

Multitemporal Surface Deformation Analysis of Amyntaio Slide (Greece) using Remotely Piloted Airborne System and Structure-from-Motion photogrammetry
Emmanuel Vassilakis, Michael Foumelis, Athanasia Erkeki, Evelina Kotsi, Issaak Parcharidis, Efthymios Lekkas

On the UAV based Analysis of Slow Geomorphological Processes: A Case Study at a Solifluction Lobe in the Turtmann Valley
Lasse Klingbeil, Erik Heinz, Markus Wieland, Jana Eichel, Thomas Läbe, Heiner Kuhlmann

Estimating Climate Change-based Soil Loss Using Erosion Models and UAV Imagery in the Metsovo Mountain Region
Loukas-Moysis Misthos, Lefkothea Papada, George Panagiotopoulos, Nikos Gakis, Dimitris Kaliampakos

Photo surveys with drones. The improvement of OSOM+, the systematic monitoring of maritime works programme
Maria Henriques, Rui Capitão, Conceição Fortes, Rute Lemos, Teresa Reis, Hugo Silva

CONFERENCE HALL

09:00 - 10:30 | ## Session 3.2 - Ground and spaceborne radar – II

Chairs: *Michele Crosetto, Chris Danezis*

ECOAQUA Modeling and Monitoring of an Exploited Aquifer System in Northern Baja California, Mexico
Christine Schottmüller, Anika Riedel, Björn Riedel, Markus Gerke, Wolfgang Niemeier

Multi-track N-SBAS Sentinel-1 Interferometry focused on opencast mine monitoring: The case study of the Ptolemaida-Florina coal mine in Greece
Kleanthis Karamvasis, Vassilia Karathanassi

Monitoring ground deformation using Sentinel-1 PSInSAR and RTS measurements in the context of the Grand Paris Express project
Abdeljalil Nahli, Elisabeth Simonetto, Maxime Tatin, Stéphane Durand, Laurent Morel, Vincent Lamour

Introduction to IBIS-ArcSAR: a circular scanning GB-SAR system for deformation monitoring
Alberto Michelini, Federico Viviani, Lorenzo Mayer

The contribution of Sentinel-1 DInSAR to the determination of vertical deformation and height system monitoring
Natasa Triantafyllou, Georgios Vergos, Ilias Tziavos

10:30 - 11:00 | **Coffee break**

11:00 - 12:30 | **Session 3.3 - Multi-sensor systems and new concepts for deformation measurements - II**

Chairs: *Hans Neuner, Maria Tsakiri*

The 4th industrial revolution, how Monitoring and Risk Management in constructions is changing in the digital era
Marco Di Mauro

A quick tool for the prediction of tunnel crown displacement using neural networks
Spyros Nsubuga, Maria Tsakiri, Vasiliki Georgiannou

Deflection Monitoring and frequency response of a Ship using GPS and Fibre Optic based sensors
Gethin Wyn Roberts, Craig Matthew Hancock, Ferdinand Klug, Werner Lienhart, Niko Zuzek, Huib de ligt

Machine learning meets deformation monitoring
Tomasz Owerko, Szymon Walasik, Wojciech Karaś

The use of geodetic techniques in stability monitoring of floating structures
Vangelis Zacharis, Sotiria Dimitrellou, Konstantinos Politis, George Livanos, Vassilios Pagounis, Orthodoxia Arabatzi, Maria Tsakiri

Evaluation of the application of radar and geodetic measurements in the monitoring of earth-filled structures
Przemyslaw Kuras, Lukasz Ortyl, Tomasz Owerko, Aleksandra Borecka

11:00 - 12:30 | **Session 3.4 - Monitoring of geohazards**

Chairs: *Marco Scaioni, Ioannis Doukas*

CyCLOPS: A Novel Strategic Research Infrastructure Unit for Continuous Integrated Spaced-based Monitoring of Geohazards
Chris Danezis, Diofantos Hadjimitsis, Michael Eineder, Ramon Brcic, Athos Agapiou, Kyriacos Themistocleous, Evangelos Mendonidis, Marios Tzouvaras, Kleopas Hadjicharalambous, Sylvana Pilidou, Georgia Papathoma, Nana Mythilou, George Constantinou, Christiana Papoutsa, Marios Nikolaidis, Andreas Christofe

Establishment of a multi-purpose 3D geodetic reference frame for deformation monitoring in Cortes de Pallas (Spain)
Luis García-Asenjo, Laura Martínez, Sergio Baselga, Pascual Garrigues

Ground Deformation Monitoring Techniques at Continuous Surface Lignite Mines
Anthony Prokos, Christos Roumpos

Monitoring of Tempi Valley Critical Rock Masses: Establishment of Special Monitoring Network and Procedures in Aegean Motorway S.A. Concession Project
Kostas Kalogirou, Efstratios Iliaskos

Sentinel -1 for geohazards monitoring
Anna Barra, Oriol Monserrat, Lorenzo Solari, Marta Bejar-Pizarro, Michele Crosetto, Gerardo Herrera, Elena Gonzales-Alonzo, Roberto Sarro, Silvia Bianchini

12:30 - 13:30 | **Lunch break**

13:30 - 15:00 | **Session 3.5 - Point cloud-based space-temporal deformations - II**

Chairs: *Andreas Wieser, Antonio Vettore*

Non-signalized Structural Monitoring using Scanning Total Stations
Lukas Raffl, Wolfgang Wiedemann, Thomas Wunderlich

Numerical structural identification using 3D laser scanning – a simulation-based case study
Eugenio Serantoni, Andreas Wieser

Random Sample Consensus vs Neural Network Analysis (RANSAC vs NNA) – a comparative evaluation on TLS point clouds
Konstantinos Lakakis, Konstantinos Tokmakidis, Alexandros Naskos

Axial tomography as a tool for the estimation of constructions' deformations
George Georgopoulos, Elisavet Telioni, George Antoniou, Efstathia Diakoumi

Large-volume photogrammetric deformation monitoring of the Bremen Cog
Heidi Hastedt, Thomas Luhmann, Amandine Colson

Monitoring the planarity and subsidence of a motorway using kinematic laser scanning
Erik Heinz, Christian Eling, Lasse Klingbeil, Heiner Kuhlmann

13:30 - 15:00 | **Session 3.6 - Bridge monitoring - II**

Chairs: *Stathis Stiros, Rémy Boudon*

Identifying bridge deformation using laser scanning data
Linh Truong-Hong, Roderik Lindenbergh

Spatio-temporal monitoring of a bridge based on 3D point clouds - A comparison among several deformation measurement approaches
Jens-André Paffenholz, Daniel Wujanz

Diagnostic surveys of displacements of a rotating pedestrian bridge during its movement
Ireneusz Wyczałek, Michał Wyczałek, Elżbieta Wyczałek

Monitoring of the static and dynamic displacements of railway bridges with the use of the total station and set of the electronic inclinometers
Ireneusz Wyczałek, Piotr Olaszek, Damian Sala, Marek Kokot

15:00 - 16:00	**Keynote Speech 3 - How research and technology convergence is shifting the deformation monitoring paradigm**
	Chairs: *Andreas Wieser, Vassilis Gikas*
	Dorota Grejner-Brzezinska, Lowber B. Strange Endowed Chair, Professor, Associate Dean for Research, The Ohio State University, Colombus, United States
16:00	**Closing of the Symposium - Awards - Closing Ceremony**

Wednesday, 15 May 2019

Empirical influence functions of different robust estimation methods applied in displacement analysis
Robert Duchnowski, Patrycja Wyszkowska

The method of detecting outliers, jumps and breaks in measurement data from a structural monitoring system
Wojciech Sowa, Bernard Kontny

Processing strategy of Continuous GPS (cGPS) observations for the French Landslide Observatory OMIV
Gilbert Ferhat, Mohammed Benbachir, Jean-Philippe Malet, Pierre Boetzlé, Paul Maisse, Maurin Vidal, Benjamin Vial, Patrice Ulrich

Specific procedures for monitoring geotectonic recent movements in the Košice Basin, Slovakia
Vladimír Sedlák

Linear and Non-Linear Deformation Effects in the Permanent GNSS Network of Cyprus
Chris Danezis, Miltiadis Chatzinikos, Christopher Kotsakis

A strategy for the monitoring of tall structures in urban area using GNSS technology
Luca Tavasci, Luca Poluzzi, Stefano Gandolfi

Undisputable, Objective and Reliable Geodetic Dam Monitoring with FRM Standardization
Stelios P. Mertikas, Xenofon Frantzis, Achilles Tripolitsiotis

Investigation of the Optimum Minimum Input data for the Forecasting of 3D Point Position Changing, Using Non-Linear Autoregressive Neural Networks
Eleni-Georgia Alevizakou, Evangelia Lambrou

Monitoring applications by using the Remote Survey Method
Charalampos Molyvas, Evangelia Lambrou

Investigation of the dependence between digital height readings and the meteorological parameters by using a stand-alone set up and repeatable short-term measurements
Anastasios-Grammatas Kampouris, Evangelia Lambrou, George Pantazis

Long-term geodetic monitoring of seasonal deformations of earth dams and relevant finite element verification
George Pantazis, Dimitrios Skarlatos, Loizos Pelecanos

Geodetic and geophysical approach of the gravitational field in santorini volcanic group
Melissinos Paraskevas, Dimitrios Paradissis, Konstantinos Raptakis, Paraskevi Nomikou, Emilie Hooft, Dimitrios Papanikolaou

Thursday, 16 May 2019

Efficacy of Msplit estimation in displacement analysis
Zbigniew Wiśniewski, Andrzej Dumalski, Robert Duchnowski

Method for confirming Monitoring System Accuracy
Marthinus Briers, Yuriy Stopkhay

Noise analysis of BDS coordinate time series based on dynamic positioning
Jun Ma, Chengdu Cao, Yang Min, Lv Zhou

Accuracy assessment of multi-GNSS Precise Point Positioning
Duygu Akyürek, Serdar Erol, Asude Meryem Karaç, Bihter Erol

2014 Mw 6.5 Gökçeada earthquake deformation analysis with geodetic and geophysical methods
Duygu Akyürek, Serdar Erol, Murat Merdivan, Bihter Erol

Determination of the tectonic plate motion parameters for the Eurasian plate based on the VLBI station positions
Miłosława Rutkowska, Marcin Jagoda, Czesław Suchocki

The Aitolo-Akarnania (Western Greece) GNSS network PPGNet – first results
Epameinondas Lyros, Jakub Kostelecky, Vladimir Plicka, Filler Vratislav, Efthimios Sokos, Konstantinos Nikolakopoulos

High rate GPS and seismological data to monitor coseismic deformation of the Peninsula of Baja California, Mexico
Carlos Moraila, Gilbert Ferhat, Clara de Lacy

Deformation Monitoring and Analysis of Super High-rise Building Based on GB-RAR
Lv Zhou, Xuelin Wen, Fei Yang, Jun Ma, Xianjian Lu

Study the Deformation of Elevated Water Storage Tank
Sara Sameh, Zaki Zeidan, Ashraf Beshr

Preliminary results on potential deformations occurring on slopes of major Highways by analyzing Sentinel 1 images
Elissavet Chatzicharalampous, Constantinos Loupasakis, Issaak Parcharidis, Manolis Charalampakis, Michaela-Maria Karathanou-Nicholaidi

Monitoring ground deformation of cultural heritage sites using SAR and geodetic techniques: The case study of Choirokoitia, Cyprus
Kyriacos Themistocleous, Chris Danezis, Evangelos Mendonidis, Vassilis Gikas

Seismic Instrumentation and Monitoring systems in large Hydroelectric Infrastructure in Greece
Christos Roilos, Spyridon Raftopoulos

Friday, 17 May 2019

A new GPS-derived database for co-seismic displacements in the Aegean area and its geodynamic significance
Nikoletta Andritsou, Athanassios Ganas, Chrysanthi Kosma, Panagiotis Argyrakis, Varvara Tsironi, George Drakatos, Efthymios Lekkas

Determination of local active tectonics regime in central and northern Greece, using primary geodetic data
Christos Pikridas, Ilias Lazos, Alexandros Chatzipetros, Spyros Pavlides

Investigation for mining-induced deformation in Upper Silesia Coal Basin with multi-GNSS in Near Real-Time
Damian Tondaś, Jan Kapłon, Witold Rohm, Maya Ilieva

Radar Remote Sensing Based Assessment of Land Deformation due to construction of Airport in Hilly Area: A case study of Pakyong, India
Vishal Mishra, Kamal Jain

Comparison of several geomatic techniques for rockfall monitoring
M. Amparo Núñez-Andrés, Felipe Buill, Càrol Puig, Nieves Lantada, Albert Prades, Marc Janeras, Josep A. Gili

Surface Rupture Mapping using Sub-Pixel Correlation of SPOT Satellite Images
Syed Zaheer Hussain, Tazeem Khan, Mirza Muhammad Waqar

Unmanned Aerial Vehicle (UAV) based mapping in engineering surveys: Technical considerations for optimum results
Stella Pytharouli, Jock Souter, Olympia Tziavou

A methodology investigation for a semi-kinematic datum realization in Greece combining geodetic and geological data
Stylianos Bitharis, Christos Pikridas, Aristeidis Fotiou

An example of using the OptD method to optimization of point clouds in the buildings diagnostics
Czesław Suchocki, Wioleta Błaszczak-Bąk, Marzena Damięcka-Suchocka, Marcin Jagoda, Andrea Masiero

Deformation Monitoring using LiDAR data sets
Georgios Papastamos

Application of merging model based on MEA+BP in dam deformation analysis
Yanfeng DONG, Wusheng HU

i2MON - Integrated monitoring for the detection of ground and surface displacements caused by coal mining
Daniel Schröder, Jörg Klonowski

JISDM 2019

4th Joint International Symposium on Deformation Monitoring

15-17 May 2019
Eugenides Foundation
Athens, Greece

www.jisdm2019.survey.ntua.gr

ARTION
conferences & events ●

www.artion.com.gr