

ICST 2009

Electra Palace Hotel,  
Thessaloniki, Greece  
24–26 August 2009

Co-sponsored by the Greek Space Agency, The Greek Ministry of Development,  
IET, Greece, IEEE, Greece, IEEE (GRSS) and the University of Patras

FINAL PROGRAMME

**Monday, August 24, 2009**

8:00–9:00 : **Registration**

**Session M1: Opening and Key note presentation**

Session Chair: George Lampropoulos

8:55–9:00 : **Welcome**

*George Lampropoulos, Conference Chair*

9:00–9:10 : **Welcome**

*The Right Honourable Minister of North Greece (to be confirmed)*

9:10–9:15 : **Corallia clusters initiative: a tool for regional development**

*V. Makios*

9:15–10:15 : **Modern Spaceborne SAR Missions for Security Purposes**

*Prof Dr Helmut Suess, German Space Agency*

**Session M2: SAR imaging**

Session Chair: Maria Petrou

10:15–10:30 : **F-SAR: DLR's new advanced airborne SAR system  
on-board DO228**

*A Reigber*

10:30–10:45 : **Velocity estimation with RADARSAT-2 in moving object  
detection experiment mode**

*S Chiu & M V Dragosevic*

10:45–11:00 : **Particularities of high resolution SAR image understanding**

*G Schwarz & M Datcu*

11:00–11:15 : **Lessons and challenges from software quality assessment:  
the case of space systems software**

*M Agu & M F Bakpo*

11:15–11:30 : COFFEE BREAK

### **Session M3: Instrumentation**

Session Chair: Craig Underwood

- 11:30–11:45 : **Low cost space elevator**  
*K Loverdos-Stelakatos*
- 11:45–12:00 : **Tracking mirror telescope to observe the prompt photons from gamma ray bursts**  
*I H Park et al.*
- 12:00–12:15 : **A new type of space telescope for observation of terrestrial transient lights including extreme lightning in the upper atmosphere**  
*J Lee et al.*
- 12:15–12:30 : **Development approach of JWST/mid infra red imager optical bench, from design to flight model (August 2009)**  
*J Amiaux et al.*
- 12:30–12:45 : **Space applications of scientific detectors: design considerations and challenges**  
*O Djazovski*
- 12:45–13:00 : **Cryocoolers for microsatellite military applications**  
*E N Pettyjohn*
- 13:00–13:15 : **Holographic analysis of complicated systems**  
*V A Antonov et al.*
- 13:15–14:00 : LUNCH

### **Session M4: Astronomy and other applications**

Session Chair: Philip L Palmer

- 16:00–16:15 : **Reliability concerns of radiation effects on space electronics**  
*I Baylakoglu & M Hudaverdi*
- 16:15–16:30 : **The space experiment SODISM on the PICARD mission**  
*M Meftah et al.*
- 16:30–16:45 : **Spots on surfaces of small bodies found by the spatial frequency method**  
*A N Rublevskiy & V V Prokofjeva*
- 16:45–17:00 : **Activity of the Pulkovo Observatory in Space Technology and in space project design**  
*N A Shakht et al.*
- 17:00–17:15 : **Meteor observing station**  
*B Zafropoulos et al.*
- 17:15–17:45 : COFFEE BREAK

**Session M5: Tutorial**

Session Chair: Alkiviadis Bais

17:45–18:15 : **EUV multilayer optics for the next generation of solar physics and space whether satellites**

*R Soufli*

18:15–18:45 : **New perspectives for satellite image data analysis**

*G. Schwarz & M Datcu*

**Session M6: X-ray instruments**

Session Chair: Regina Soufli

18:45–19:00 : **The study of Cosmology with X-ray satellites**

*M Hudaverdi et al.*

19:00–19:15 : **Fresnel zone plate telescopes as high resolution imaging devices**

*S K Chakrabarti et al.*

19:15–19:30 : **X-ray experiments for Space applications in intermediate energy range**

*V K Yadav et al.*

20:00–22:00 : RECEPTION

**Session T1: Invited paper 1**

Session Chair: Vasilios Anastassopoulos

- 9:00–9:45 : **The Phoenix mission to Mars**  
*Dr Tom Pike, Imperial College*
- 9:45–10:00 : **The Greek Space Industry Association**  
*Athanasios Potsis*

**Session T2: Space Systems**

Session Chair: Athanasios Potsis

- 10:00–10:15 : **Indian payloads onboard CORONAS PHOTON mission**  
*A Nandi et al.*
- 10:15–10:30 : **Noise estimation algorithms for onboard image quality assessment**  
*I Marais & W H Steyn*
- 10:30–10:45 : **Effects of cryogenic temperatures on spacecraft internal dielectric discharges**  
*D C Ferguson et al.*
- 10:45–11:00 : **Use of the radiosity importance concept in the error estimation in radiative heat transfer design of spacecraft**  
*P Vueghs et al.*
- 11:00–11:15 : **Carbon carbon for space applications**  
*S Lee et al.*
- 11:15–11:30 : COFFEE BREAK

**Session T3: Invited Session: SAR**

Session Chair: Mihai Datcu

- 11:30–11:45 : **Urban structure monitoring using spaceborne interferometric SAR techniques**  
*D Teleaga et al.*
- 11:45–12:00 : **Ship surveillance by joint use of SAR and AIS**  
*S Bruschi et al.*
- 12:00–12:15 : **Comparison between KIM products and traditional mapping of flood detections using SAR data**  
*F Cian et al.*
- 12:15–12:30 : **Application of mean-shift filtering to Canny edge detection in SAR images**  
*J M de Nicolas-Presa et al.*
- 12:30–12:45 : **Markov Random Field model for non-quadric regularisation of complex SAR images**  
*D Gleich et al.*
- 12:45–13:00 : **Radar focusing based on compressive sensing**  
*M Tello et al.*
- 13:00–14:00 : LUNCH

#### **Session T4: Pollution monitoring**

Session Chair: Maria Kanakidou

- 16:00–16:15 : **Monitoring air pollution from space: the major urban areas of the Eastern Mediterranean basin**  
*M Vrekoussis et al.*
- 16:15–16:30 : **Evaluation of a neural network based approach for aerosol optical depth retrieval and uncertainty estimation**  
*K Ristovski et al.*
- 16:30–16:45 : **Spatial and temporal variability of O<sub>3</sub>, CO, NO<sub>2</sub>, HCHO inferred from satellite, ground based observations and modelling above South-East Europe: role of pollution sources**  
*E V Dermitzaki et al.*
- 16:45–17:00 : **System architecture for the measurement of the atmospheric pollution using spectral photometric methods, for buildings and on line access of resulted maps**  
*P Popescu et al.*
- 17:00–17:15 : **The influence of natural and anthropogenic secondary sources on the glyoxal global distribution: what do we learn comparing model results with satellite observations?**  
*S Myriokefalidakis et al.*
- 17:15–17:30 : **SO<sub>2</sub> atmospheric loading revealed through ground based and satellite measurements**  
*M Koukouli et al.*
- 17:30–17:45 : COFFEE BREAK

#### **Session T5: Disaster monitoring**

Session Chair: Palma Blonda

- 17:45–18:00 : **Monitoring disasters with a constellation of satellites-Type examples**  
*A Mahmood*
- 18:00–18:15 : **Improving flood inundation models using remotely sensed data**  
*D Mason et al.*
- 18:15–18:30 : **Automatic data collection design for real time detection of oil spillage disasters in Nigeria**  
*B F Bakpo & M N Agu*
- 18:30–18:45 : **International standardisation in space industry: a key for international cooperation in space market**  
*E Ozalp*
- 18:45–19:00 : **A novel framework of combined particle filter and anomaly detection for multispectral and hyperspectral target tracking**  
*M Jaward et al.*
- 20:00–23:00 : DINNER

**Session W1: Invited paper 2**

Session Chair: Spyros Pantelakis

9:00–10:00 : **Micro-space mission concepts for maritime surveillance**

*Richard Kolacz, General Manager, COMDEV, Canada*

**Session W2: Earth Observation**

Session Chair: Athanasios Ganas

10:00–10:15 : **Evaluation of satellite derived UV spectral irradiance with ground based measurements from multi-channel radiometers**

*M M Zempila et al.*

10:15–10:30 : **Condensed solar energy from space to the Earth**

*K Loverdos-Stelakatos*

10:30–10:45 : **Target classification of hyperspectral data using data fusion techniques**

*T Liu et al.*

10:45–11:00 : **ERS detection of surface uplift related to the M=6.3 Lefkada earthquake**

*A Ganas et al.*

11:00–11:15 : **Classification of high resolution images: automatic olive groves recognition and c**

*N Amoruso et al.*

11:15–11:30 : COFFEE BREAK

**Session W3: Orbit design and motion control**

Session Chair: George Lampropoulos

11:30–11:45 : **Geolocation of Argus flight data**

*H Chesser et al.*

11:45–12:00 : **Orbit design for the Earth satellites and planetary orbiters for maximum effectiveness..**

*J Klokocnik & J Kostecky*

12:00–12:15 : **Robot assisted satellite servicing: novel motion control algorithm using sliding mode control**

*S S Parsa et al.*

12:15–12:30 : **Attitude determination through registration of satellite imagery**

*R Mumtaz & P Palmer*

12:30–12:45 : **Lunar lander's dynamic motion estimation using optical navigation**

*Y Shang & P Palmer*

12:45–13:00 : **Optimal spacecraft attitude control with convergence rate constraints**

*N M Horri et al.*