

VII WORKSHOP ON ROBOTIC AUTONOMOUS OBSERVATORIES

Torremolinos (Málaga), 16-20 Oct 2023

SCIENTIFIC PROGRAM

v.17102023

Hotel Occidental Torremolinos Playa, calle La Toja
Urb. Los Álamos, Torremolinos (Málaga, Spain)

Sunday 15 October

18:30-20:30 Registration opens
(in the Registration Desk Hall -right side-
at the Hotel main entrance)

Monday 16 October

09:00-11:00 Registration opens (Conference Hall)

11:00-11:15 Official Opening

11:15-11:40 New Robotic Telescope: The big eye to observe
the transient Universe (Opening Talk)
(*Carlos M. GUTIÉRREZ*)

Session I New HW and SW development (I)

(chairwoman: *María D. CABALLERO-GARCÍA*)

11:40-12:00 Cerro Armazones Observatory: an observatory
dedicated for distance scale calibration
(*Marek GORSKI*)

12:00-12:20 Machine learning methods used to calculate the
telescope cycle time implemented in the
observatory software (*Mirosław KICIA*)

12:20-12:40 Autonomous telescope and scientific infra-
structure developments at TUG (*Orhan ERECE*)

12:40-13:00 Considerations on automating older telescopes:
Boyden 1.5m telescope (*Hendrik VAN HEERDEN*)

13:00-16:00 Lunch

Session II Science (I): Solar System (and beyond)

(chairman: *David HIRIART*)

16:00-16:20 Cometary outbursts and the evolution of ejected
particles (*Maria GRITSEVICH*)

16:20-16:40 Interest in observing stellar occultations by
transneptunian objects with telescope networks
(*José Luis ORTIZ*)

16:40-17:00 *Interstellar visitors and elusive extrasolar meteorites (Eloy PEÑA-ASENSIO)*

17:00-17:20 Database of Meteors detected by the UMA-SMA Network and the BOOTES Global Network of Robotic Observatories (*Alberto CASTELLÓN, Beatriz BARROS BLANCO y José Ignacio GARCÍA ESCOBARET*)

Session III Telescope, Observatory Control Systems and Scheduling

17:20-17:40 Autonomous scheduling at the TJO telescope (*David BAROCH LÓPEZ*)

17:40-18:00 LSST control system and synergies between LSST and small observatories (*Petr KUBÁNEK*)

18:00-18:20 Observatory control system (OCS) for telescopes at South African Astronomical Observatory (SAAO) (*Sunil CHANDRA*)

18:20-18:40 Persistent queues in automation: the role of NATS at Cerro Armazones Observatory (*Mikolaj KAŁUSZYŃSKI*)

20:00-21:30 Welcome reception cocktail at the Arrozante area (close to minigolf course and smaller swimming pool halfway from Hotel Entrance to Conference Hall)

Tuesday 17 October

Session IV Science (II): Gamma-ray Bursts

(chairman: *Stanislav VITEK*)

- 09:30-09:50 The gamma-ray burst GRB 211211A observed with *FERMI* and ASIM (*María Dolores CABALLERO-GARCÍA*)
- 09:50-10:10 Evolution of the afterglow optical spectral shape of GRB 201015A in the first hour: evidence for dust destruction (*Toktarkhan KOMESH*)
- 10:10-10:30 GRB 140102A: Insight into prompt spectral evolution and early optical afterglow emission (*Rahul GUPTA*) [on-line]
- 10:30-10:50 Prompt emission and early optical afterglow of GRB 201015A and GRB 201216C: onset of the external forward shock (*Amit KUMAR ROR*) [on-line]

10:50-11:20 Coffee Break

Session IV Science (II) (con't): Gamma-ray Bursts

(chairman: *Sergiy GUZIY*)

- 11:20-11:40 Powering source of gamma ray burst associated supernovae: spin-down millisecond magnetar? (*Amit KUMAR*) [on-line]
- 11:40-12:00 Early emission of short optical transients (*Siyu WU*)
- 12:00-12:20 Automation of al Khatim Observatory (m44) (*Mohammad ODEH*)
- 12:20-12:40 Testing the new photometric pipeline with data of recent GRBs (*Martin JELÍNEK*)
- 12:40-13:00 Understanding GRB progenitors using MESA (*Amar ARYAN*) [on-line]

13:00-16:00 Lunch

Session V New HW and SW development (II)

(chairman: *Petr KUBÁNEK*)

16:00-16:20 Coordinates network (GCN): NASA's next generation time-domain and multimessenger astronomy alert system (*Leo P. SINGER*) [on-line]

16:20-16:40 BLACK HOLE TOM: an automatic tool for photometric time-domain astronomy (*Przemysław. J. MIKOŁAJCZYK*)

Session VI Education, Public Outreach and Citizen Science

(chairman: *Petr KUBÁNEK*)

16:40-17:00 Using AI and ML in education of astronomy, Physics and Maths (*Fatemeh BAHRANI*) [video]

17:00-17:20 EKOSLIVE: empowering citizen scientists (*Jasem MUTLAQ*)

17:20-17:40 The use of robotic telescopes in the Science-IES Project in Spain (*Javier CÁCERES & Alberto J. CASTRO-TIRADO*)

17:40-18:00 Posters presentations (I) (3' each)

18:00-18:30 Round Table [only for FLI Kepler camera users] (*Bruce GENDRE*)

21:30-22:30 Flamenco Show at Hotel (near swimming pool near the sea shore)

Wednesday, 18 October

09:00-18:00 Excursion Day (bus and lunch provided)

Thursday 19 October

Session VII New HW and SW development (III)

(chairman: *Jan ADAMČÁK*)

09:30-09:50 The MASTER Network (*Vladimir LIPUNOV*) [on-line]

09:50-10:10 The BOOTES Global Network of Robotic Telescopes
(*Alberto J. CASTRO-TIRADO*)

10:10-10:30 OAUJ-CD500 - A new Krakow robotic telescope
(*Staszek ZOLA*)

10:30-10:50 Towards a fully robotic solar observatory at the
University of Göttingen (*Sven MARTENS*)

10:50-11:20 Coffee Break

Session VIII Science (III): Multimessenger Astronomy

(chairwoman: *M. Rosa LÓPEZ-RAMÍREZ*)

11:20-11:40 Peculiar gamma-ray bursts (*Binbin ZHANG*)

11:40-12:10 Multi messenger astronomy: latest results from
the fink broker (*Roman LE MONTAGNER*)

12:10-12:30 GOTO: A robotic kilonova hunter
(*Felipe JIMÉNEZ-IBARRA*)

12:30-12:50 GERRY: a code to calculate the probability of
detecting EM counterparts in GW follow-up
campaigns (*David O'NEILL*)

12:50-13:10 Rapid follow-up of gravitational wave events with
a robotic meter-class optical telescope
(*Vishwajeet SWAIN*) [on-line]

13:10-13:20 Posters presentations (II) (3' each)

13:20-16:00 Lunch

Session IX Space Surveillance and Tracking

(chairman: *María GRITSEVICH*)

- 16:00-16:40 Scheduling multi-sensor networks for space surveillance and tracking
(*Francesc VILARDELL SALLÉS*)
- 16:40-17:00 *Determination of space debris orbit by using the sensors of the Spanish Ministry of Defense*
(*Manuel Ángel SÁNCHEZ PIEDRA*)
- 17:00-17:20 Further space debris observations with the BOOTES Global Network (*Irene M. CARRASCO-GARCÍA et al.*)
- 18:00-19:00 Visit to a famous Holy Week Brotherhood's "Salón de Tronos" and Museum in Málaga downtown before returning to the hotel (bus provided)
- 19:00-20:30 "The search for extraterrestrial life"
(Public Conference in Málaga downtown)
(*Paul GABOR*)
- 20:30-21:00 Visit to Antigua Casa de Guardia (founded 1840) for tasting a Málaga wine (or soda -zero alcohol-) and walk thru the city center towards Univ. of Málaga's rectorate (bus provided)
- 21:30-22:45 Optional light dinner at "chiringuito" near the hotel on the beach front: "Espetos" (grilled sardines on a stick) and "Fritura malagueña" (fried small fishes) with either soft drink, summer wine or beer (two drinks): 20 eur/person.

Friday 20 October

Session X New HW and SW development (IV)

(chairman: *Tim-Oliver HUSSER*)

09:30-09:50 MORISOT: enabling fully robotic spectroscopy at the MONET/s telescope (*Leon MEERWART*)

09:50-10:10 The sky quality at the zadko observatory: how it impacts the scientific activities (*Bruce GENDRE*)

10:10-10:30 Management of a multi-user robotic observatory (*John MOORE*)

10:30-10:50 Affordable, redundant communication links for remote observatories (*Chris JOHNSON*)

10:50-11:20 Coffee Break

Session X (con't) New HW and SW development (IV)

(chairman: *Binbin ZHANG*)

11:20-11:40 Advanced weather control system for robotic observatories with enhanced sensor redundancy (*Francesc DOMENE*)

11:40-12:00 Sky brightness measurements with an all-sky camera (*Karsten Johann SCHIMPF*)

12:00-12:20 Pipelines in planning and data reduction of wide field optical surveys (*Alexei POZANENKO*) [on-line]

Session XI Science: Galactic Sources and beyond

(chairwoman: *Siyu WU*)

12:20-12:40 The New Black-Hole in town: Swift J1727.8-1613 (triggered as GRB 230824A) (*Noel CASTRO-SEGURA*)

12:40-12:50 Multicolour and high-speed photometry of Swift J1727.8-1613 with the BOOTES Network (*Emilio FERNÁNDEZ-GARCÍA et al.*)

12:50-13:10 Stellar streams with the BOOTES Network
(*Youdong HU*)

13:20-16:00 Lunch

Session XII Future Research

(chairman: *Paul GABOR SJ*)

16:00-16:20 Robotic network of telescopes for stellar
occultations (*Rodrigo LEIVA*)

16:20-16:40 The Intelligent Observatory (*Nicolas ERASMUS*)

16:40-17:00 Software components of The Intelligent
Observatory (*Carel VAN GEND*)

17:00-17:20 Towards integration automatic VLBI tracking
Network (*Zhong CHEN*)

17:20-17:40 Towards a unified BOOTES Global Network: real-
time observations management
(*Ignacio PÉREZ-GARCÍA*)

Session XIII Summary

17:40-18:00 The new Spanish Space Agency
(Closure Talk) (*Álvaro GIMÉNEZ*)

18:00-18:15 Concluding Remarks (*Ferhat Fikri ÖZEREN*)

18:15 Adjourn

**20:00-22:30 Conference Dinner at Parador de Golf (one-way bus
provided leaving at 19:45; returning by walk; 10
min walking distance)**

**23:00-24:00 Traditional AstroRob after-dinner bath at the
Mediterranean sea (beach in front of the
Occidental Torremolinos Playa hotel)**

Posters

Remote observation of lunar impact flashes at La Sagra observatory

(Mert ACAR)

Low-cost automatization of manual equatorial telescope made by Carl Zeiss Jena

(Jan ADAMČÁK)

Renovation and automation of the Coloti observatory: internet of things with OPC unified architecture

(Paolo CRISTARELLA ORESTANO)

Management, operation, and SSA capabilities of the test bed telescopes (TBT)

(Alejandro FERNÁNDEZ CENTENO)

DON: automation of the Vatican advanced technology telescope

(Paul GABOR SJ)

Imaging stokes photometer-polarimeter for the BOOTES Global Telescope Network

(Sergiy GUZIY)

Tulancingo-I: the K band Mexican radiotelescope

(David HIRIART)

UHEgamma-ray observations with prototype Cherenkov telescopes SST-1M from Ondrejov

(Martin JELÍNEK)

A Pythonic approach to INDI and web GUIs

(Chris JOHNSON)

GROWTH-INDIA telescope: small telescope big dreams

(Harsch KUMAR)

A unique look on micrometeorites: when spectroscopy meets citizen science

(María Rosa LÓPEZ-RAMÍREZ, Javier LASERNA, Jon LARSEN & María GRITSEVICH)

Calibration of JWST mars spectra using a robotic network of ground telescopes

(Miguel Ángel LÓPEZ-VALVERDE)

An optical fiber positioning system for multi-object high-resolution spectroscopic observations with extremely large telescopes

(Bestha MANJUNATH)

Unsynchronized fireball analysis and challenges in dimensionless atmospheric flight parameterization: the SPMN230522 superbolide as a case study

(E. PEÑA-ASENSIO, P. GRÈBOL-TOMÀS, J.M. TRIGO-RODRIGUEZ, M. GRITSEVICH and ALBERT RIMOLA)

Characterization of the KL4040 SCMOS for use on the Boyden research telescopes

(W. SMIT, H. J. VAN HEERDEN, B. VAN SOELEN)

The intelligent observatory weather service: supporting automated observations

(Carel VAN GEND)

MAIA: 10 years of two-station observations of faint meteor showers

(Stanislav VITEK)

Teaching of space technology at CTU in Prague

(Stanislav VITEK)

Research and application of machine learning platform for transient recognition

(Yang XU)

