

Viewpoints in Astronomy, Astrophysics, Space and Planetary Sciences
On-line meeting



Romanian Academy
Astronomical Institute
Cluj-Napoca Branch - Astronomical Observatory



“Babeş-Bolyai” University Cluj-Napoca

Thursday October 28th 2021

Zoom link:

<https://us02web.zoom.us/j/81867006587?pwd=bjR1OVhuMGRyOVBVWXdMa3lxRjRGdz09>

Times given in CET+1 Hour

09:30-11:30 **Session** – chair Alexandru Pop

09:30-10:00 Opening

10:00-10:30 Chun Sing Leung

Solar eclipse observations with small radio telescope in Hong Kong in 21cm radio frequency band
Institution Hong Kong Polytechnic University

10:30-11:00 Violeta Poenaru¹, Ulpia Elena Botezatu¹, Mirela Mădălina Trelia¹, Mircea Cernat¹,
Mirela Mădălina Bivolaru¹, Irina Beatrice Ştefanescu¹, Cosmin Nistor¹, Marius Ioan Piso¹, Dan Alin
Nedelcu², Vlad Turcu³

*Romanian national SST system: from maneuver detection to setting-up a re-entry service
implementation*

¹Romanian Space Agency, Bucharest, Romania

²Astronomical Institute of the Romanian Academy, Bucharest, Romania

³Astronomical Observatory Cluj-Napoca, Cluj-Napoca Branch of the Romanian, Cluj-Napoca, Romania

11:00-11:30 Matthew Lake

Generalized uncertainty relations and the problem of dark energy
Frankfurt Institute for Advanced Studies, Frankfurt, Germany

12:00-13:30 Session – chair Dan Alin Nedelcu

12:00-12:30 Simon Anghel^{1,2}, Dan Alin Nedelcu¹, Mirel Bîrlan^{1,3}, Ioana Boacă¹

Machine learning tools for meteor detection filtering

¹Astronomical Institute of the Romanian Academy, Bucharest, Romania

²University of Bucharest, Faculty of Physics, Romania

³IMCCE, Paris Observatory, France

12:30-13:00 Mihail Bărbosu

Autonomous Attitude Determination and Control in Spacecraft Missions

Rochester Institute of Technology, New York, United States

13:00-13:30 Radu Dănescu¹, Răzvan Itu¹, Mircea Muresan¹, Vlad Turcu², Octavian Cristea³

Compact Solution for Low Earth Orbit Surveillance

¹Technical University of Cluj-Napoca, Cluj-Napoca, Romania

²Astronomical Observatory, Romanian Academy Cluj-Napoca Branch, Cluj-Napoca, Romania

³BITNET, Cluj-Napoca, Romania

15:00-17:30 Session – chair Vlad Turcu

15:00-15:30 Marius Echim^{1,2}, Mirela Voiculescu³, Costel Munteanu¹, Gabriel Voitcu¹, Eliza Teodorescu¹, Catalin Negrea¹, Emilian Bujor Dănilă³, Simona Condurache-Bota³

Some properties of high pressure jets observed in the Earth's magnetosheath at solar minimum (2007-2008)

¹Institute of Space Science, Ilfov, Romania

²Royal Belgian Institute for Space Aeronomy, Brussels, Belgium

³Dunărea de Jos University of Galați, Galați, Romania

15:30-16:00 Ruxandra Toma

Short period variable stars in the Omegawhite survey

Astronomical Institute of the Romanian Academy, Bucharest, Romania

16:00-16:30 Sorin Marin

Astronomy, planning and cultural heritage of Carol Park area in Bucharest

Astronomical Institute of the Romanian Academy, Bucharest, Romania

16:30-17:00 Dan Istrițeanu¹, Liviu Ionescu¹, Alexandru Rusu¹, Ionuț Tramandan¹, Sorin Buliga¹, Calin Bira¹, Aelandru Tatomirescu¹, Dan Alin. Nedelcu²

Cheia Antenna Retrofit Phase II. RADAR for space objects detection

¹RARTEL SA, Bucharest, Romania

²Astronomical Institute of Romanian Academy, Bucharest, Romania

17:00-17:30 Andreea Pricopi¹

Neural networks for predicting the geoeffectiveness of CMEs - A look into the black box

¹Technical University of Cluj-Napoca, Romania

17:30-19:00 Poster Session

Posters available at: <https://gabrielamocanu0.wixsite.com/zac2021>

Mirela Mădălina Bivolaru

A Mixed Integer Linear Programming method for On-Orbit Servicing trajectory optimization

Romanian Space Agency, Bucharest, Romania

Gabriela Blaga, Bogdan Dănilă

Time dependent simulations of thermally induced magnetic field disturbances

Astronomical Observatory Cluj-Napoca, Cluj-Napoca Branch of the Romanian, Cluj-Napoca, Romania

Remus Boată

Solar radiation forecasting using a model based on Takagi-Sugeno fuzzy systems

Romanian Academy, Timisoara Branch, Astronomical Observatory Timisoara, Timisoara, Romania

Diana Rodica Constantin, Valentin Ioan Niculescu, Dumitru Dan Pricopi

The Hydrogen-like atoms: Analysis of the orbital quantum states for n up to 4

Astronomical Institute of the Romanian Academy, Bucharest, Romania

Bogdan Dănilă, Gabriela Blaga

Simulations of magnetometer vicinities in the SWARM fleet

Astronomical Observatory Cluj-Napoca, Cluj-Napoca Branch of the Romanian, Cluj-Napoca, Romania

Liliana Dumitru

Evolution of magnetic flux in solar active regions with strongest flares

Astronomical Institute of the Romanian Academy, Bucharest, Romania

Dana Ficuț-Vicaș, Iharka Szücs-Csillik

ExoWorld Walk in the Botanical Garden

Astronomical Observatory, Romanian Academy, Cluj-Napoca Branch, Cluj-Napoca, Romania

Dan Moldovan, Liviu Mircea, Vlad Turcu

Results in PHEMU 2021 Campaign obtained at the Astronomical Observatory Cluj

Astronomical Observatory, Romanian Academy, Cluj-Napoca Branch, Cluj-Napoca, Romania

Friday October 29th 2021

Zoom link:

<https://us02web.zoom.us/j/82198571821?pwd=OFBOekxoaTI5Tk5bU5RV1EweXVJUT09>

Times given in CET+1 Hour

10:30-11:30 Session – chair Tiberiu Harko

10:30-11:00 Mark Rushton

A radiative transfer model for the Milky Way

Astronomical Institute of the Romanian Academy, Bucharest, Romania

11:00-11:30 Ioana Boacă ⁽¹⁾, Dan Alin Nedelcu ^(1,2), Mirel Bîrlan ^(1,2), Tudor Boaca ^(3,4), Simon Anghel ^(1,2,5)

Dark flight trajectory of meteoroids detected by the MOROI network

¹Astronomical Institute of Romanian Academy, Bucharest, Romania

²IMCCE, Observatoire de Paris, France

³Department of Computer Science, Information Technology, Mathematics and Physics, Petroleum-Gas University of Ploiesti, Ploiesti, Romania

⁴Simion Stoilow Institute of Mathematics of the Romanian Academy, Bucharest, Romania

⁵Faculty of Physics, University of Bucharest, Ilfov, Romania

12:00-13:30 Session – chair Mihail Bărbosu

12:00-12:30 Tiberiu Harko^{1,2}

Astrophysical and cosmological implications of conformal quadratic Weyl gravity

¹Department of Theoretical Physics, National Institute of Physics and Nuclear Engineering (IFIN-HH), Bucharest, Romania

²School of Physics, Sun Yat-Sen University, Guangzhou, People's Republic of China
of Physics, Sun Yat-Sen University, Guangzhou, People's Republic of China

12:30-13:00 Dana Ficuț-Vicaș

Barred PHANGS from a different kinematical perspective

Astronomical Observatory Cluj-Napoca, Cluj-Napoca Branch of the Romanian, Cluj-Napoca, Romania

13:00-13:30 Alexandru Pop¹, Maria Crăciun², Mihail Bărbosu³

Light Travel Time Effect: from Fourier parameters to orbital elements through different approaches

¹Astronomical Observatory, Romanian Academy Cluj-Napoca Branch, Cluj-Napoca, Romania

²Tiberiu Popoviciu Institute of Numerical Analysis, Romanian Academy, Cluj-Napoca

³Rochester Institute of Technology, New York, United States

15:00-16:30 **Session** – chair Gabriela Blaga

15:00-15:30 Mirela Mădălina Trelia¹, Dan Alin Nedelcu², Adrian Bruno Şonka², Mirel Bîrlan²
Determining the rotational properties for GEO satellites

¹Romanian Space Agency, Bucharest, Romania

²Astronomical Institute of the Romanian Academy, Bucharest, Romania

15:30-16:00 Cristina Blaga¹, Paul Blaga¹, Tiberiu Harko^{2,3}

Jacobi stability analysis of circular geodesics around a spherically symmetric dilaton black hole

¹Babeş-Bolyai University, Cluj-Napoca, Romania

²Department of Theoretical Physics, National Institute of Physics and Nuclear Engineering (IFIN-HH), Bucharest, Romania

³School of Physics, Sun Yat-Sen University, Guangzhou, People's Republic of China
of Physics, Sun Yat-Sen University, Guangzhou, People's Republic of China

16:00-16:30 Vlad Turcu, Alexandru Pop, Dan Moldovan

BVRI CCD photometric observations at SZ Lyncis with the new CDK 24" telescope at Cluj-Napoca Astronomical Observatory

Astronomical Observatory Cluj-Napoca, Cluj-Napoca Branch of the Romanian, Cluj-Napoca, Romania