



27th Young Scientists' Conference on Astronomy and Space Physics

April 26–30, 2021

Kyiv, Ukraine

PROGRAMME

Time zone: UTC+3

Monday, April, 26

17.30-18.00 - Official opening

Section 'High energy astrophysics'

Chair: Pavlo Plotko

18:00-18:50 Nahee Park (*Queen's University, Kingston, Canada*) Using multi-messenger observations to study high-energy particle dynamics in our Universe (**invited**)

18:50-19:05 coffee break

19:05-19:20 Natia Kevlishvili (*Institute of Theoretical Physics, Ilia State University, Tbilisi, Georgia*) The curvature emission model of peculiar isolated neutron star 2XMM J104608.7-594306. (**12+3**)

19:25-19:40 Yelyzaveta Zhyhaniuk, B. I. Hnatyk, V. V. Marchenko (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) X-ray analysis of the structure of relativistic AGN jets of Cygnus A (**12+3**)

- 19:45-20:00** Oleksandra Ostapenko, J.Pablo, N.Park (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Investigation of the detectability of gamma-ray bright GRBs with future neutrino observatories **(12+3)**
- 20:05-20:20** Vadym Voitsekhovskiy (*Kyiv National University of Taras Shevchenko, Kyiv, Ukraine*) Prospects for gamma-ray observations of Hercules cluster **(12+3)**
- 20:25-20:35** Ganesh Kumar Snehaa, J.Tomsick, (*University of California, Berkeley, United States*) Analysis of The Magnetic CV IGR J15038–6021 **(poster)**

Tuesday, April, 27

Section 'Extragalactic astrophysics and cosmology'

Chair: Dmytro Orikhovskiy

- 15:00-15:50** Iryna Butsky (*University of Washington, Seattle, United States*) Cosmic Rays and the Circumgalactic Medium **(invited)**
- 15:55-16:10** Olena Torbaniuk, M. Paolillo, F. Carrera, S. Cavaoti, C. Vignali, G. Longo, J. Aird (*Department of Physics, University Federico II in Naples, Naples, Italy*) The connection between star formation and BH accretion in the local Universe **(12+3)**
- 16:15-16:30** Kateryna Kulish, V.A.Ponomarenko, A.O.Simon, V.V.Vasylenko, I.O.Izvieikova (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Optical monitoring results of blazar PKS1222+216 **(12+3)**
- 16:35-16:50** Oleksandra Ostapenko, M.Tarnopolski, N.Zywucka, J.Pascual-Granado (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Searching for signatures of chaos in gamma-ray light curves of selected Fermi-LAT blazars **(12+3)**
- 16:55-17:10** Dmytro Orikhovskiy, V.A.Ponomarenko, A.O.Simon, V.V.Vasylenko (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Results of photometric research of AGN MARKARIAN 501 and MARKARIAN 421 **(12+3)**
- 17:10-17:25** **coffee break**
- 17:25-17:40** Iryna Chemerynska, Ishchenko M.V., Berczik P.P. (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Backward and forward orbital integration of the Milky Way globular cluster system **(12+3)**
- 17:45-18:00** Vadym Bidula (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Classification of compact star-forming galaxies using machine learning **(12+3)**
- 18:05-18:20** Nadiia Diachenko, A.A.Elyiv, D.V.Dobrycheva, M.Yu.Vasylenko, I.B.Vavilova (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Distance moduli to the galaxies with machine learning regression methods **(12+3)**
- 18:25-18:40** Oleksandra Lukina, N.Pulatova, A.Tugay, O.Malyi, L.Zadorozhna (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) XMM-Newton X-ray galaxies identified with the HyperLEDA database **(12+3)**
- 18:45-19:00** Oleksandr Huhnin, A.Tugay (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Advanced morphology of VIPERS galaxies **(12+3)**
- 19:05-19:20** Rishabh Singh (*Narayana etechno school, Tambaram, India*) Time dilation and black holes **(12+3)**

- 19:25-19:40** Aikaterini Niovi Triantafyllaki (*Aix-Marseille Université, Marseille, France*) Studying the Extremely Faint Universe to Understand Galaxy Evolution **(12+3)**
- 19:45-19:55** Géza Csörnyei, L.Dobos, I.Csabai (*Max Planck Institute for Astrophysics, Garching, Germany*) The effect of emission lines on the performance of photometric redshift estimation algorithms **(poster)**

Wednesday, April, 28

Section ‘Stellar Astrophysics and Interstellar Medium’

Chair: Maksym Mohorian

- 15:00-15:50** Jaime Andrés Rosales (*North-West University, Mmabatho, South Africa*) V4142 Sgr A Double Periodic Variable with an accretor surrounded by the accretion-disk’s atmosphere **(invited)**
- 15:55-16:10** Anna Bartha-Veres, F.Cruz-Sáenz de Miera, Á.Kóspál (*Konkoly Observatory, Research Centre for Astronomy and Earth Sciences, Budapest, Hungary*) The ALMA view of the eruptive protobinary Haro 5a IRS **(12+3)**
- 16:15-16:30** Blanka Világos, B.Cseh, M.Lugaro (*Konkoly Observatory, Eötvös Loránd University, Budapest, Hungary*) Barium stars preserving the traces of slow neutron-capture process **(12+3)**
- 16:35-16:50** Ihor Koshmak, B.Ya.Melekh (*Ivan Franko National University of Lviv, Lviv, Ukraine*) Multicomponent photoionization modelling of the HII regions surrounding continuous star-forming regions **(12+3)**
- 16:55-17:10** Vitalii Breus, S.V.Kolesnikov, I.L.Andronov I.L (*Odessa National Maritime University, Odessa, Ukraine*) Broad-band polarimetry: technique, calibration and standards **(12+3)**
- 17:10-17:25** **coffee break**
- 17:25-17:40** Roman Akhmetshyn (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Summarization on Circumgalactic Medium, methods of studying it and building a theoretical framework **(12+3)**
- 17:45-18:00** Oleksii Sokoliuk, A.Baransky, A.Khorolskiy, A.Simon, V.Vasylenko (*Kyiv Astronomical Observatory, Kyiv, Ukraine*) Photometric and spectrophotometric study of UGSU-type dwarf nova Gaia18awg, based on ground and space observations in optical and X-ray wavelengths **(12+3)**
- 18:05-18:20** Bálint Seli, K.Oláh, Z.Kővári, L.Kriskovics (*Konkoly Observatory, Budapest, Hungary*) Stellar flare morphology across the HRD **(12+3)**
- 18:25-18:40** Géza Csörnyei, L.Szabados (*Max Planck Institute for Astrophysics, Garching, Germany*) Comprehensive study of changes in the pulsation period of Galactic Cepheid variables **(12+3)**
- 18:45-19:00** Csilla Kalup, L.Molnár (*Konkoly Observatory (CSFK), Budapest, Hungary*) Investigating horizontal branch variable stars in the globular cluster NGC 5897 with space photometric methods **(12+3)**
- 19:05-19:20** Jorge Perez Gonzalez, E.Diez Alonso, M.V.Perandones Moreno, F.Garcia (*University College London, London, United Kingdom*) Study of the EPIC 246257206 EA variable star system discovered with the Kepler Space Telescope **(12+3)**
- 19:25-19:40** Yevhen Vasylyukivskyi, A.A.Konovalenko, S.V.Stepkin (*Institute of Radio Astronomy of the National Academy of Sciences of Ukraine, Kharkiv, Ukraine*) High precision diffuse interstellar medium radio spectroscopy through low-frequency carbon radio recombination lines **(12+3)**

Thursday, April, 29

Section ‘Solar physics and heliosphere’

Chair: Roman Akhmetshyn

- 18:00-18:50** Oleksiy Agapitov (*SSL UC Berkeley, Berkeley, United States*) Magnetic switchbacks and associated with them plasma waves in the young solar wind: Parker Solar Probe observations at 35.7 solar radii (**invited**)
- 19:15-19:30** Sergei Petrishchevskii, Yu.G. Rapoport, V.V. Grimalsky (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Penetration of electric field from the near-ground ULF source to the ionosphere under different configurations of the geomagnetic field (**12+3**)
- 19:35-19:50** Bohdan Petrenko, L.Kozak, A.Lui, E.Kronberg, E.Grigorenko (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Plasma Wave Recognition by Multipoint Filtering Techniques (**12+3**)

Friday, April, 30

Section ‘Solar System & Exoplanets’

Chair: Olena Shubina

- 10:00-10:50** Oleksandra Ivanova, (*Astronomical Institute Slovak Academy of Sciences, Tatranská Lomnica, Slovakia*) Active asteroids: mystery in the Main Belt (**invited**)
- 10:55-11:10** Valeriya Rychagova, I.G.Slyusarev (*Institute of Astronomy Kharkiv National University, Kharkiv, Ukraine*) Phase and color ratio method for searching areas with an anomalous optical roughness on the Vesta surface (**12+3**)
- 11:15-11:30** Arsenii Kasianchuk, A. Baransky, P. Korniychuk, N. Semenchuk (*Zhytomyr Humanitarian Gymnasium 23, Zhytomyr, Ukraine*) Astrometric and photometric observations of Trojan asteroid Hector(624) (**12+3**)
- 11:35-11:50** Roman Ruzhytskyi, O.V.Ivanova (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Investigations of two distant comets C / 2014 B1 (Schwartz) and C / 2012 K6 (Mgnaught) at heliocentric distances from 4-9 AU (**12+3**)
- 11:55-12:10** Polina Dimitriieva, (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Observation of the Perseid meteor shower at the period 2017-2020 (**12+3**)
- 12:15-12:25** Abduljalol Safarov, Sh.S.Boboev, M.H.Zuhurov (*Tajik National University, Dushanbe, Tajikistan*) Study of comet dust tail synchrones C/2020 F3 (**poster**)
- 12:25-12:35** Abduljalol Safarov, D.K.Ayubov (*Tajik National University, Dushanbe, Tajikistan*) Determination of the correlation coefficient of photometric parameters of selected short-periodic Jupiter family comets of the and solar activity (**poster**)
- 12:35-13:00** Official closure