



21th Young Scientists' Conference on Astronomy and Space Physics
April 28-May 3, 2014
Kyiv, Ukraine

PROGRAMME

Registration, poster section, morning coffee and tea-breaks will take place in the poster-hall

All morning sessions will take place in the room 103; all evening sessions, official opening and closure will take place in the room 200

Monday, April, 28

09.00-13.00 - Registration

13.00-13.30 - Official opening

Section 'Solar System and Exoplanets'

Chair: Kateryna Frantseva

13.30-13.45 Tanya Gromakina, I. N. Belskaya, J. L. Ortiz, V. G. Shevchenko (*V. N. Karazin Kharkiv National University, Kharkiv, Ukraine*) Rotation and shape of the dwarf planet Make-make (12+3)

13.45-14.00 Oleksii Matsiaka, Yu. Kuznyetsova, V. Krushevska (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Parameters estimation obtained from the photometric data considering red noise in the wavelet-based framework (12+3)

- 14.00-14.15** Olena Shubina, O. V. Ivanova, V. L. Afanasiev (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Spectral and polarimetry investigation of the comet C/2012 J1 (Catalina) at 6 meter telescope SAO RAS (**12+3**)
- 14.15-14.30** Vasyl Ponomarenko, K. I. Churyumov, V. V. Kleshchonok (*Astronomical Observatory of Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) The dusty atmosphere, some physical parameters and the luminescent continuum in the spectra of comets C/2006 W3 (Christensen), C/2007 N3 (Lulin), C/2009 P1 (Garradd) (**12+3**)
- 14.30-15.00** **tea-break**
- 15.00-15.05** Alyona Mozgova, K. I. Churyumov, V. O. Smirnov (*Astronomical Observatory of Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) The temporal evolution of the meteor spectrum of 21 October, 1958 (**poster**)
- 15.05-15.10** Julia Andrienko, O. Ivanova, V. Reshetnyk, A. Golovin (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Photometric investigation of comet 2013 A1 (**poster**)
- 15.10-15.15** Sergiy Kolisnyk (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Dynamical model of the motion of bodies in the Solar System (**poster**)

Tuesday, April, 29

Section ‘High Energy Astrophysics’

Chair: Margaryta Sobolenko

09.00-09.30 **morning coffee**

- 09.30-09.45** Taras Kuzyo, O. Petruk (*Ivan Franko National University of Lviv, Lviv, Ukraine*) Gamma-ray image of Tycho SNR (**12+3**)
- 09.45-10.00** Anton Dmytriiev, A. Neronov, D. Malyshev (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Detection and study of very high energy cosmic rays with Imaging Atmospheric Cherenkov Telescope (**12+3**)
- 10.00-10.15** Roman Gnatyk (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Transition from Galactic to extragalactic cosmic rays based on KASCADE-Grande data (**12+3**)
- 10.15-11.00** **tea-break**
- 11.00-11.05** Yair Israel Piña López, P. R. Hugo Francisco (*National Autonomous University of Mexico (UNAM), Mexico, Mexico*) Charged particle detection using a CMOs sensor in the space environment (**poster**)
- 11.05-11.10** Nino Chkheidze (*Center for Theoretical Astrophysics, ITP, Ilia State University, Tbilisi, Georgia*) Cosmic Ultra-high energies and their realization mechanisms (**poster**)
- 11.10-11.15** Anatoliy Vasylenko (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Dependencies of X-ray spectral parameters for a sample of BAT AGNs (**poster**)
- 11.15-11.20** Lidiia Zadorozhna, B. I. Hnatyk (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Electromagnetic emission bursts from the shock wave around the near-cusp region of superconducting cosmic string in cosmic plasma (**poster**)

Wednesday, April, 30

Section ‘Extragalactic Astrophysics’

Chair: Margaryta Sobolenko

09.00-09.30 morning coffee

09.30-09.45 Artem Bohdan, B. I. Hnatyk (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Study of short-term variability of the weak X-ray sources. Variability of nodes of jet of Centaurus A (**12+3**)

09.45-10.00 Olena Torbaniuk, G. Ivashchenko (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Dependence of equivalent width of quasar emission lines on UV spectral index, quasar luminosity and BH mass (**12+3**)

10.00-10.15 Anatoliy Tugay (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Extragalactic filament detection with layer smoothing method (**12+3**)

10.15-10.20 Alla Gotsulyak, E. Panko (*Odessa I. I. Mechnikov National University, Odessa, Ukraine*) Morphological Classification of 248 PF Galaxy Clusters (**poster**)

10.20-10.25 Kateryna Sukach, V. V. Marchenko (*Taras Shevchenko Chernihiv National Pedagogical University, Chernihiv, Ukraine*) Analysis of spatial and temporal properties of Jets in AGN with CIAO (**poster**)

10.25-10.30 Iuliia Tsykaliuk, Yu. Kudrya (*Taras Shevchenko Chernihiv National Pedagogical University, Chernihiv, Ukraine*) Dark matter in the Local group (**poster**)

10.30-11.10 tea-break

Section ‘Cosmology and Gravitation’

Chair: Margaryta Sobolenko

11.10-11.55 Peter Berczik (Main Astronomical Observatory, National Academy of Sciences of Ukraine, Kyiv, Ukraine) Dynamical modelling of supermassive black hole binary evolution during the galaxy mergers. The “final parsec problem” is not a problem. (**invited**)

11.55-12.10 Margarita Sobolenko, P. Berczik, R. Spurzem, G. Kupa (*Main Astronomical Observatory, National Academy of Sciences of Ukraine, Kyiv, Ukraine*) Large scale galaxy collisions simulations with central Post Newtonian Binary Black Hole (**12+3**)

12.10-12.25 Maksym Teslyk, O. M. Teslyk (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Scalar entanglement entropy at Schwarzschild horizon (**12+3**)

Thursday, May, 1

Section ‘Stellar Astrophysics and Interstellar Medium’

Chair: Oleksiy Ivanyuk

09.00-09.30 morning coffee

09.30-09.45 Iryna Kushniruk, Ya. V. Pavlenko (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Abundances in the atmosphere, effective temperature and surface gravity of the subdwarf metal-poor star G 224-58 A (**12+3**)

09.45-10.00 Vitalii Breus, K. Petrik, A. Baransky, T. Hegedus (*Odessa National Maritime University, Odessa, Ukraine*) Photometric Study of the Intermediate Polar V2306 Cyg (**12+3**)

10.00-10.15 Maxim Mogoryan, N. A. Virnina, F. Martinelli (*Odessa Mariinskaya High School, Odessa, Ukraine*) Discovery of New Variable Stars (**12+3**)

10.15-10.30 Natalia A. Virnina, F. Martinelli, T. Krajci, M. Mogoryan (*Odessa Mariinskaya High School, Odessa, Ukraine*) Period and light curve variations of the binary star XY Boo (**12+3**)

10.30-10.45 Sergii Pokhvala, B. E. Zhilyaev, V. M. Reshetnyk (*Main Astronomical Observatory of the National Academy of Sciences of Ukraine, Kyiv, Ukraine*) Spectral observations of chromospherically active stars 61Cyg AB with slitless spectrograph on small telescopes (**12+3**)

10.45-10.50 Mykola Malygin, R. Kuiper, H. Klahr, Th. Henning, C. P. Dullemond (*Max-Planck-Institut für Astronomie, Heidelberg, Germany*) Advanced Gas Opacity for Circumstellar Environments (**poster**)

10.50-10.55 Alisa Shchurova, A. Sklyanov, E. Pavlenko, V. Malanushenko, K. Antonyuk, N. Pit (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Dwarf nova MN Dra: evolution of the negative superhumps between different outbursts (**poster**)

10.55-11.00 Andrew Simon, V. V. Vasylenko, N. V. Metlova (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Optical observations of the 1H1936+541 in 2008-2014 (**poster**)

11.00-11.30 tea-break

Section ‘Solar Physics and Heliosphere’

Chair: Andrii Sukhorukov

11.30-11.45 Olga Botygina, V. G. Lozitsky (*Astronomical Observatory of Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Which is spectral line minimum in spectra of prominences? (**12+3**)

11.45-12.00 Oleg Lozitsky (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Creation and usage of program code for strong subtelescopic solar magnetic field diagnostic (**12+3**)

12.00-12.15 Andrii Sukhorukov, Nataliia Shchukina, and Irina Vasilyeva (*Main Astronomical Observatory of the National Academy of Sciences of Ukraine, Kyiv, Ukraine*) Influence of the small-scale photospheric magnetic field on the solar abundances of CNO-elements (**12+3**)

12.15-12.20 Olexandra Baran (*Astronomical Observatory of Ivan Franko National University of Lviv, Lviv, Ukraine*) The dynamics of the observed solar granulation: spatio-temporal variations of line of sight velocity and thermodynamic parameters (**poster**)

12.20-12.25 Antonina Klyuyeva (*Main Astronomical Observatory of the National Academy of Sciences of Ukraine, Kyiv, Ukraine*) The influence of two types of the solar wind high-speed streams on the cosmic ray intensity (**poster**)

12.25-12.30 Yuriy Fursiak (*Crimean Astrophysical Observatory, Nauchny, Ukraine*) Sunspot groups with X class flare activity in solar cycle 24: dynamics and features (**poster**)

Friday, May, 2

Section ‘Atmospheric studies and space geophysics’

Chair: Vitaliy Zhaborovskyy

09.00-09.30 morning coffee

09.30-09.45 Eugen Tkachenko, Yu. Rapoport, Yu. Selivanov, V. Ivchenko, V. Grimalsky, V. Fedun (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) The theory and modeling MHD large-scale vortex-like excitations in the ionosphere (**12+3**)

09.45-10.00 Vladyslav Mogylchak, L. V. Kozak (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Characteristic dependencies of the temperature, partial pressure and relative humidity for various areas Ukraine (**12+3**)

10.00-10.15 Andrew Prokhorenkov, L. V. Kozak, A. T. Y. Lui (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Magnetic field fluctuation properties in the transition layer of the Earth’s magnetosphere (**12+3**)

10.15-10.30 Vitaliy Zhaborovskyy (*Main Astronomical Observatory of the National Academy of Sciences of Ukraine, Kyiv, Ukraine*) Quantitative analysis of the atmospheric density models applicable to determination of artificial satellite deceleration (**12+3**)

10.30-10.35 Igor Gala, L. V. Kozak, A. T. Y. Lui (*Taras Shevchenko National University of Kyiv, Kyiv, Ukraine*) Diffusion processes in the Earth’s magnetosphere (**poster**)

10.35-12.00 Poster section + tea-break

12.00-12.30 Official closure