

XIV NATIONAL CONFERENCE OF ASTRONOMERS OF SERBIA AND MONTENEGRO

FINAL PROGRAMME

Wednesday, October 12

9:30 **Registration**
10:00 **Opening ceremony**

Cocktail

11:00 – 13:00 **INVITED REVIEWS**

11:00 – 11:40 Anatol M. Cherepashchuk: *Black Hole Demography*
11:40 – 12:20 Rudolf Dvorak: *Stability of motion in Extrasolar Planetary Systems*
12:20 – 13:00 Emilio J. Alfaro: *Complexes of Star Formation in Nearby Galaxies*

15:00 – 16:30 **SECTION I: STELLAR ASTROPHYSICS**

15:00 – 15:30 Snežana Stanimirović: *Pulsar Spectroscopy with the Arecibo radio telescope: Tiny-Scale Structure and More (invited lecture)*
15:30 – 15:40 Eleonora Antokhina: *Determination of masses of stars and relativistic objects by the method of theoretical light and radial velocity curve synthesis*
15:40 – 15:50 Vladimir Čadež: *Possible effects of subphotospheric flows on helio-seismic g-modes*
15:50 – 16:00 Jelena Petrović: *Which Massive stars are Gamma-Ray Burst Progenitors?*
16:00 – 16:10 Vesna Borka, Jelena Milogradov-Turin, Dejan Urošević: *Brightness of Main Galactic Radio Loops at 1420 MHz*
16:10 – 16:30 Olgica Kuzmanovska: *Influence of the stellar rotation on mass and radius of the convective core on the Main Sequence (MSc Thesis)*

16:30 – 17:00 **Coffee break**

17:00 – 17:30 **SECTION II: COSMOLOGY**

17:00 – 17:20 Petar Grujić: *Fractal Cosmology Today (invited lecture)*
17:20 – 17:30 Branko Dragović: *p-Adic and Adelic Aspects of the Universe*

17:30 – 19:00 **POSTERS**

Thursday, October 13

9:30 – 11:00 **SECTION III: ASTROPHYSICAL SPECTROSCOPY (I)**

- 9:30 – 9:40 Srđan Bukvić: *An alternative approach to spectrum base line estimation*
- 9:40 – 9:50 Predrag Jovanović: *Microlensing of the X-Ray Region of Active Galactic Nuclei*
- 9:50 – 10:00 Edi Bon: *The Shapes of Broad Emission Lines of a Sample of Active Galactic Nuclei: Two Component Model*
- 10:00 – 10:10 Dragana Ilić, Alla I. Shapovalova, Vahram H. Chavushyan, Luka Č. Popović: *Variability of physical parameters in the BLR of NGC 5548*
- 10:10 – 10:40 Igor Savić: *Astrophysically relevant reactions of C_n ($n=1-3$) with ions: experiments in ion traps (Phd Thesis)*
- 10:40 – 11:00 Aleksandar Tomić: *Photographic determination of the sunspot's proper motion and the investigation of the solar differential rotation (Msc Thesis)*

11:00 – 11:30 **Coffee break**

11:30 – 12:40 **SECTION III: ASTROPHYSICAL SPECTROSCOPY (II)**

- 11:30 – 11:40 Sanja Danilović: *The influence of solar features to the variability of the Mn I 539.4 nm spectral line*
- 11:40 – 11:50 Branislav Vukotić, Dejan Urošević, Ivan Bojičić, Bojan Arbutina,: *On the magnetic field evolution of supernova remnants in starburst galaxy M82*
- 11:50 – 12:10 Zoran Simić: *Influence of impacts with charged particles on Cd I and F III spectral lines in stellar plasma (MSc Thesis)*
- 12:10 – 12:30 Nikola Vitas: *Hyperfine Structure of MnI Lines in Solar Spectrum (MSc Thesis)*
- 12:30 – 12:50 Oliver Vince: *Temperature sensitivity of the MnI 539.47 nm spectral line based on spectroscopic observation of solar-like stars (MSc Thesis)*

15:00 – 16:30 **SECTION IV: STELLAR AND GALACTIC SYSTEMS**

- 15:00 – 15:30 Eleni Rovithis-Livaniou: *Period Changes of Close Binaries and Methods of Analysis the (O-C) Diagrams of Eclipsing Binaries (invited lecture)*
- 15:30 – 16:00 Margarita Karovska: *UV and X-ray Imaging of Interacting Binary Systems (invited lecture)*

- 16:00 – 16:10 Viktor Orlov, Aleksej Rubinov: *Galactic potential models: problem of choice*
- 16:10 – 16:20 Gojko Đurašević, Dinko Dimitrov, Olga Atanacković-Vukmanović, Bojan Arbutina, Barahitdin Albayrak, Selim O. Selam: *A study of active close binaries XY Leo and AQ Psc*
- 16:20 – 16:30 Aleksandar Bogojević, Ana Lalović, Branimir Acković: *A Model of Binary System Formation*

16:30 – 17:00 **Coffee break**

17:00 – 17:50 **SECTION V: INTERDISCIPLINARY STUDIES**

- 17:00 – 17:30 Vladan Čelebonović: *Basic notions of dense matter physics: applications to Astronomy (invited lecture)*
- 17:30 – 17:40 Brankica Šurlan, Stevo Šegan: *Discrete and singular functions approximated by amplitude multipliers*
- 17:40 – 17:50 Igor Stojanović, Petar Glišović, Stevo Šegan: *DepAstro CCD programme for double stars*

17:50 – 19:00 **POSTERS**

Friday, October 14

9:30 – 10:50 **SECTION VI: DYNAMICAL ASTRONOMY AND PLANETOLOGY (I)**

- 9:30 – 9:40 Aleksandar Bogojević, Antun Balaž, Aleksandar Belić: *Spacing of Planets in an Effective Gravitational Accretion Model*
- 9:40 – 9:50 Roman Zhuchkov, Viktor Orlov, Aleksej Rubinov: *Multiple stars with low hierarchy: stable or unstable?*
- 9:50 – 10:00 Zoran Knežević, Kleomenis Tsiganis, Harry Varvoglis: *Age of the Veritas Asteroid Family from two Independent Estimates*
- 10:00 – 10:10 Pavle I. Premović, Slavoljub C. Živanović, Zoran M. Đurišić: *Giant asteroid impacts on land: Thermochemical equilibrium calculations of high-temperature O₂ generation on the early Earth*
- 10:10 – 10:20 Rade Pavlović: *Applicability of Nekhoroshev's theorem in some selected chaotic regions*
- 10:20 – 10:30 Mihailo Čubrović: *Fractional kinetic model of resonance dynamics in the Solar System: general formalism and applications*

10:30 – 10:40 Saša Nedeljković and Calvin Barth Netterfield: *Forward Scattering of Meteors at Multiple Frequencies*

10:40 – 10:50 Stevo Šegan, Brankica Šurlan: *An algorithm for generating of amplitude multipliers*

10:50 – 11:30 **Coffee break**

11:30 – 12:50 **SECTION VI: DYNAMICAL ASTRONOMY AND PLANETOLOGY (II)**

11:30 – 11:40 Jaroslav Grnja, Vladimir Benišek: *Observation of Mars During its Great 2003 Opposition*

11:40 – 11:50 Desanka Šulić, Vladimir Čadež, Davorka Grubor, Vida Žigman: *Space Weather Signatures on VLF Radio Waves Recorded in Belgrade*

11:50 – 12:00 Božidar Jovanović: *Solar activity and its influence to Earth phenomena*

12:00 – 12:10 Katya Georgieva: *International Heliophysical Year 2007 and regional collaboration*

12:10 – 12:20 Vojislava Protić-Benišek, Vladimir Benišek: *On the trace: comet finder of Belgrade Astronomical observatory*

12:20 – 12:50 Anđelka Kovačević: *Gravitational influence of asteroids and determination of their masses (Phd Thesis)*

15:00 – 16:00 **SECTION V: INTERDISCIPLINARY STUDIES**

15:00 – 15:10 Milan M. Čirković: *Astrobiological Phase Transition*

15:10 – 15:20 Igor Savić, Svetlana R. Lukić, Imre Gut, Dieter Gerlich: *Test measurement on ion-molecule reactions in a ring-electrode ion trap*

15:20 – 15:30 Tijana Zečević, Stevo Šegan, Danilo Šegan: *Electronic encyclopaedia of astronomy and localisation problems*

15:30 – 15:40 Marino Tumpić: *Light pollution in Croatia /not only astronomical problem/*

15:40 – 15:50 Stevo Šegan, Brankica Šurlan: *Some characteristics of total and composite (aeronomical) models of planetary atmospheres*

15:50 – 16:00 Nataša Stanić: *Public Outreach in Serbia – concepts and problems*

16:00 – 16:30 **Coffee break**

16:30 – 18:00 **SECTION VII: HISTORY AND PHILOSOPHY OF ASTRONOMY**

16:30 – 17:00 Stevo Šegan, a group of postgraduate students: *Uncertainties and misconcepts about calendars: a project of a non-historical calendar (invited lecture)*

17:00 – 17:10 Stojan Obradović: *Mutual relationship between mathematics and astronomy in the ancient Greece*

17:10 – 17:20 Boris Banjević: *Ancient Eclipses and Dating Fall of Babylon*

17:20 – 17:30 Veselka Trajkovska, Slobodan Ninković, Milan M. Ćirković: *A Comment on B. Petronijević's Work "L'Evolution Universelle"*

17:30 – 17:40 Jelena Milogradov-Turin: *The main astrophysical work of Đorđe Stanojević "Sur l'origine du reseau photospherique"*

17:40 – 17:50 Efstratios Th. Theodossiou, Vassilios N. Manimanis, Milan S. Dimitrijević: *Nicephoros Gregoras the greatest Byzantine astronomer and Serbs*

17:50 – 18:00 Olga Atanacković-Vukmanović: *Astronomy education in Serbia and Montenegro 2002-2005*

20:00 *Conference dinner*

Saturday, October 15

9:30 – 11:00 **Assembly of the Society of Astronomers of Serbia**

11:00 **Closing the Conference**

12:00 **Excursion**

POSTERS

Wednesday, October 12

Slobodanka Redžić: *Do the isolated neutron stars spontaneously disintegrate?*

Ana Lalović and Ištvan Vince: *Characteristics of the Belgrade Astronomical Observatory's stellar spectrograph*

Ana Lalović, Olivera Latković, Atila Čeki and Ištvan Vince: *Identification of spectral lines in some close binary stars observed at Rozhen Observatory*

Stevan Đeniže: *Si III line broadening in helium plasma*

Aleksandar Srećković: *Stark broadening parameters in the Mn I spectrum*

Aleksandar Dragić: *Presented status of the Belgrade cosmic-ray experiment*

Dragoslav Stoiljković: *Density of solar planets: The exception of the rule?*

Sasa Simić: *Relativistic effect in the process of GRB pulses formation*

Igor Smolić and Vesna Topolovački: *Light-time effect in the eclipsing binary AK Her*

Vladimir Benišek and Viktor Batić: *Radio Telescope at 406.7 MHz and Radio Interferometer at 1420 MHz: preliminary results*

Snežana Marković: *Polarization of the BD+37o2426*

Snežana Marković, Silvana Nikolić, Sanja Erkapic and Slobodan Jankov: *Long-term polarimetric variability of some late-type stars*

Aleksandar Valjarević: *Astroclimatic explorations on the mountain of Vidojevica*

Milorad Smiljanić: *Cosmic nature of human being*

Nataša Gavrilović: *Application of the Fourier transform analysis on determination of rotational velocities of 10 Be stars*

Ljubinka Babović: *Lepenski vir - sacral calendar of the Sun deity*

Aleksandar Tomić: *Solar eclipses as the transformation on the unitary circle*

Vladimir Milosavljević and Steva Đeniže: *Measured Stark parameters of the He II P alpha spectral line*

Nataša Stanić: *Belgrade Starry Eye - fiction or reality*

Nataša Kuburović, Dragana Pavlović and Ištvan Vince: *The evaluation of air pollution based on polarization of scattered solar radiation*

Goran Pavičić and Vladan Čelebonović: *The internal structure of titan: further considerations*

Thursday, October 13

- Milivoje Lukić and Stevo Šegan: *An algorithm for the result treatment of an unknown process: parametric and non-parametric decisivity*
- Milivoje Lukić and Stevo Šegan: *An example of application of the Gauss-Encke method with "new" tools*
- Stevo Šegan and a group of undergraduate students: *Contributions to history and teaching of astronomy: planet transits across the solar disc, methods of spectral analysis, interactive moduli of ephemeride calculations*
- Aleksandar Zorkić: *Astronomy in media in Serbia*
- Božidar Jovanović: *Solar activity influence to maize crop*
- Božidar Jovanović: *Astronomy in former Serbian newspapers and magazines*
- Vukan Ogrizović, Jelena Gučević, Oleg Odalović and Violeta Vasilić: *A measuring system for vertical deflections determination*
- Mihailo Čubrović: *Scaling and phase-transition behavior of escapes from 2D nonintegrable galactic potentials*
- Gjore Cenev: *Megalithic observatory Kokino*
- Goran Damljanović and Nada Pejović: *Ground-based latitude data and the improved reference frame*
- Stojan Obradović: *Structure of space*
- Jaroslav Grnja and Vladimir Benišek: *The Recession of Martian South Polar Cap in 2003*
- Zorica Cvetković and Gligorije Perović: *PERVC method for determination of variance components*
- Bojan Novaković and Nataša Todorović: *Orbits of four visual double stars*
- Nikola Božić: *Activities of Valjevo astronomers from 2003. to 2005.*
- Nikola Božić: *Supplement to ethnoastronomical researches in Valjevo region*
- Radomir Đorđević: *On scientific activity of Slavko Bokšan*
- Vojislava Protić-Benišek, Vladimir Benišek, Anatolij Mihajlov, Tatjana Jakšić, Goran Pavičić et al.: *On the Belgrade astrophotographic plate archive (BAPA): current status*
- Vojislava Protić-Benišek, Vladimir Benišek, Jaroslav Grnja, et al.: *Well-observed transit of Venus in 2004: preliminary results*
- Žarko Mijajlović, Aleksandar Valjarević and Aleksandar Simonović: *Climate properties of Toplica region*
- Aleksandra Anđić and E. Wiehr: *Magnetic influence on the velocities of high frequency waves*