

X-ray sky: from stars and black holes to cosmology
Science with eROSITA and ART-XC aboard Spectrum-RG

Monday, September 3
Kazan Federal University, Aula Magna

16.00 — 21.30 Opening ceremony, chamber concert and reception

Speakers:

Welcome address from Kazan Federal University

Welcome address from Academy of Sciences of Tatarstan

Prof. Nail Sakhibullin, Chair of Astronomy, KFU

Prof. Viktor Khartov, General Designer and General Director of NPO Lavochkin

Prof. Anatoly Cherepashchuk, Director of Sternberg Astronomical Institute, Moscow University

Prof. Kirpal Nandra, Director of MPE

Prof. Joachim Truemper, Foreign Member of the Russian Academy of Sciences

16:45 Konrad Dennerl: *Comets, charge exchange, and a novel look at the X-ray universe with eROSITA*
(35 min)

17:20 *Break (15 min)*

17:35 Chamber ensemble “La Primavera” (90 min)

19:15 *Reception (in the building of the old observatory)*

Tuesday, September 4
Academy of Sciences of the Republic of Tatarstan

9:30 — 11:25 SRG: Status of the spacecraft and instruments

9:30 Viktor Khartov: *SRG project status and overview* (40)

10:10 Peter Predehl: *eROSITA - An overview of instrument and science* (30)

10:40 Vadim Burwitz: *eROSITA testing and calibration activities at the Panter X-ray test facility: Mirrors et al.* (15)

10:55 Mikhail Pavlinsky: *ART-XC - An overview of instrument and science* (15)

11:10 Mikhail Gubarev: *Development of mirror modules for ART-XC* (15)

11:25 — 11:55 Coffee break

11:55 — 12:50 X-ray missions

11:55 Joachim Truemper: *Lessons learned from the ROSAT all sky survey* (30)

12:25 Naomi Ota: *ASTRO-H* (25)

12:50 — 14:20 Lunch

14:20 — 15:40 Galaxy clusters and cosmology

- 14:20 Eugene Churazov: *Galaxy clusters in X-rays: plasma physics, AGN feedback and Cosmology* (25)
14:45 Hans Boehringer: *Cosmological studies with galaxy clusters* (25)
15:10 Thomas Reiprich: *Cluster cosmology with eROSITA* (15)
15:25 Rodion Burenin: *Optical identification of galaxy clusters in the SRG all sky survey* (15)

15:40 — 16:10 Coffee break

16.10 — 17:30 Galaxy clusters and cosmology (cont.)

- 16:10 Rashid Sunyaev: *Observational appearance of clusters of galaxies in X-Rays and in microwave spectral band; why we need the sample of eRosita clusters* (25)
16:35 Monique Arnaud: *XMM observations of clusters of galaxies and their identification* (25)
17:00 Alexis Finoguenov: *CODEX: Prototype for eROSITA cluster survey* (15)
17:15 Sandor Molnar: *Hard thermal X-ray emission from merging clusters of galaxies* (15)

17:30 — 18:30 Multi-wavelength synergies I

- 17:30 Alexey Moiseev: *The 6-m telescope BTA: current state and perspectives for SRG* (15)
17:45 Ilfan Bikmaev: *RTT-150 capabilities for optical follow-up of eROSITA and ART-XC targets* (15)
18:00 Boris Shustov: *Spectrum-UV and its synergy with Spectrum-RG* (15)
18:15 Dmitry Ivanov: *Russian «Quasar» radio interferometric network* (15)

Wednesday, September 5

Academy of Sciences of the Republic of Tatarstan

09.30 — 11.00 Galaxy clusters: synergies with SZ observations

- 09:30 Etienne Pointecouteau: *The pressure profile of galaxy clusters as seen by Planck* (30)
10:00 Bradford Benson: *The South Pole Telescope: The Sunyaev-Zeldovich cluster survey and future plans* (30)
10:30 Daniel Marrone: *SZ followup of eROSITA galaxy clusters* (30)

11:00 — 11:30 Coffee break

11.30 — 12.40 Galaxy clusters: synergies with SZ observations (cont.)

- 11:30 Jonathan Sievers: *Results from the Atacama Cosmology Telescope, prospects and plans for ACTPol, and synergy with the eROSITA survey* (30)
12:00 Thomas Plagge: *Measuring the Hubble constant with Sunyaev-Zeldovich and X-ray cluster*

data (25)

12:25 Tony Mroczkowski: *High-resolution SZE confirmation of EASS clusters with MUSTANG-2* (15)

12:40 — 14.00 Lunch

14:15 — 16.45 Excursion to Kazan Kremlin

18:00 Conference dinner

19:30 After-dinner speech

Prof. Guenther Hasinger (Director of Institute for Astronomy, University of Hawaii): *Great Observatories, Astronomy and Life in Hawaii*

20:30 Concert

Thursday, September 6

Academy of Sciences of the Republic of Tatarstan

10:00 – 10:45 Multi-wavelength synergies II

10:00 Yuri Gnedin: *Follow-up of SRG sources with optical facilities in Russia* (15)

10:15 Marat Mingaliev: *Possibilities of using RATAN-600 for SRG follow-up* (15)

10:30 Andrei Lobanov: *Effelsberg 100-meter telescope and eROSITA science* (15)

10:45 — 11:55 Active galactic nuclei and normal galaxies

10:45 Marat Gilfanov: *AGN and normal galaxies in the eROSITA all-sky survey* (25)

11:10 Sergey Sazonov: *A full AGN census by X-ray and infrared all-sky surveys (SRG vs. WISE)* (15)

11:25 Marcella Brusa: *The golden epoch of AGN-galaxy co-evolution: prospects for eROSITA* (15)

11:40 Mara Salvato: *Redshifts and added values for AGN eROSITA sources* (15)

11:55— 12:25 Coffee break

12:25 — 13:55 Active galactic nuclei and normal galaxies (cont.)

12:25 Guenther Hasinger: *Possibilities for eROSITA cooperation with Hawaii ground-based facilities* (30)

12:55 Steffan Gillessen: *A gas cloud on its way towards the supermassive black hole at the Galactic Centre* (30)

13:25 Gert Huetsi: *Angular fluctuations in the CXB: is Fe 6.4 keV line tomography of the large-scale structure feasible?* (15)

13:40 Akos Bogdan: *New frontiers in probing galaxy formation models: characterizing extended hot coronae around massive spiral galaxies* (15)

13:55 — 15:25 Lunch

15:25 — 16:15 Galaxy clusters and cosmology (cont.)

15:25 Alexei Starobinsky: *Growth of matter density perturbations as a test of dark energy properties* (25)

15:50 Daisuke Nagai: *Outstanding challenges in the Era of Precision Cluster Cosmology* (25)

16:15 — 16:20 Break (5 min)

16:20 — 17:05 and 17:30 — 19:00 Parallel Session 1: Compact objects

16:20 Dmitry Bisikalo: *Accretion disks in close binary stars* (15)

16:35 Roman Rafikov: *New ideas on mechanisms of angular momentum transport and variability in boundary layers of accretion disks* (15)

16:50 Nikolai Shakura: *Microlensing evidence for super-Eddington disk accretion in quasars* (15)

17:05 — 17:30 Coffee break

17:30 Solen Balman: *X-ray observations of dwarf novae* (15)

17:45 Alexander Lutovinov: *High-mass X-ray binaries in the Milky Way and LMC: current view and prospects for SRG* (15)

18:00 Sergei Grebenev: *Supergiant fast X-ray transients — status and prospects for study with Spectrum-RG* (15)

18:15 Tolga Guver: *Modeling the X-ray spectra of magnetars* (15)

18:30 Dmitry Klochkov: *Luminosity-related spectral changes as a probe of the accretion regime in accreting pulsars* (15)

18:45 Valery Suleimanov: *Application of neutron star atmosphere models to determination of neutron star parameters* (15)

16:20 — 17:05 and 17:30 — 19:00 Parallel Session 2: Extragalactic science

16:20 Nicolas Clerc: *Cosmological interpretation of large X-ray cluster surveys with CR-HR diagrams* (15)

16:35 Gayoung Chon: *Understanding the large scale structure with the Reflex II catalogue* (15)

16:50 Natalya Lyskova: *A simple recipe for estimating masses of elliptical galaxies and clusters of galaxies* (15)

17:05 — 17:30 Coffee break

17:30 Yuying Zhang: *Status of mass calibration using a representative cluster sample at $z \sim 0.2$ and an*

- optical follow-up using mock surveys (15)*
- 17:45 Irina Zhuravleva: *ICM Inhomogeneities (15)*
- 18:00 Alexander Kolodzig: *AGN in the eROSITA all-sky survey: statistics and correlation properties (15)*
- 18:15 Ildar Khabibullin: *SRG/eROSITA prospects for detection of GRB afterglows (15)*
- 18:30 Roman Krivonos: *X-ray emission from IRAS galaxies (15)*
- 18:45 Sergey Dodonov: *Power of medium band imaging (15)*

Friday, September 7

Academy of Sciences of the Republic of Tatarstan

9:30 — 10:40 Galactic compact objects

- 9:30 Mikhail Revnivtsev: *Populations of Galactic X-ray sources visible to SRG (25)*
- 9:55 Konstantin Postnov: *X-ray luminosity function of galactic low-mass X-ray binaries as a tool for the binary evolution studies (15)*
- 10:10 Ada Nebot: *XMM-Newton Survey Science Center Galactic Plane Survey (15)*
- 10:25 Sergei Popov: *Isolated compact objects for Spectrum-RG (15)*

10:40 — 11:10 Coffee break

11:10— 13:10 Physical processes in the ISM, diffuse X-ray emission, stars

- 11:10 Dan McCammon: *Distribution of hot gas in the Galaxy (25)*
- 11:35 Miquel de Avillez: *The signature of non-equilibrium ionization and time-dependent cooling of the interstellar medium (25)*
- 12:00 Meng Su: *Fermi bubbles seen by eROSITA (25)*
- 12:25 Jan Robrade: *Stars in the eROSITA all-sky survey (15)*
- 12:40 Juergen Schmitt: *The high-energy environment of exoplanet host stars (15)*
- 12:55 Vladislav Izmodenov: *Charge transfer reactions at interfaces between neutral gas and plasma: dynamical effects and X-ray emission (15)*

13:10 — 13:25 Concluding remarks

13:25 — 14:45 Lunch

- 14:45 – 17:00 Excursion to the Hermitage exhibit “Nomads of Eurasia on the road to empire”**
http://www.hermitagemuseum.org/html/En/04/2012/hm4_2_333.html