

XIV-th International School  
**“PARTICLES AND COSMOLOGY”**

April 16 – 21, 2007

Baksan Valley, Kabardino–Balkaria, Russian Federation

**Preliminary Program**

**April 16, Monday**

**Morning Session 10:30**

**\*\*\* Opening and Welcome Addresses.** – 30 min.

**Break: 11:00 — 11:30**

GAVRIN Vladimir (INR, BNO)  
*Radiochemical solar neutrino experiments.* – 30 min.

DE BOER Wim (U. Karlsruhe)  
*The dark connection between the Canis Major dwarf, the gas flaring, the rotation curve and the EGRET excess of diffuse Galactic gamma rays.* – 30 min.

CAPPELLA Fabio (Universite di Roma "La Sapienza")  
*Recent investigations on rare processes by DAMA at LNGS.* – 30 min.

VERKHODANOV Oleg (SAO, Nizhni Arkhyz)  
*Non-gaussianity at low and high multipoles of the WMAP mission CMB data.* – 30 min.

**Evening Session 15:30**

CERULLI Riccardo (Laboratori Nazionali del Gran Sasso)  
*Recent DAMA activity on Dark Matter investigation at LNGS* – 40 min.

BARKOV Maxim (IKI RAS / U. of Leeds)  
*Magnetic acceleration of relativistic jets.* – 30 min.

DE BOER Wim (U. Karlsruhe)

*The dark connection between the Canis Major dwarf, the gas flaring, the rotation curve and the EGRET excess of diffuse Galactic gamma rays.* – 40 min.

**Coffee Break: 17:20 — 17:40**

KAUTS Vladimir (LPI, Moscow)

*Distribution of dark matter in Solar system.* – 30 min.

MIKHEEVA Elena (LPI, Moscow)

*A solution of the cusp problem in relaxed DM halos.* – 30 min.

**April 17, Tuesday**

**Evening Session 15:30**

ZHUK Alexander (Odessa National University)  
*Accelerating Multidimensional Cosmologies.* – 40 min.

KHOKONOV Azamat (KBGU, Nalchik)  
*State equations in inflation cosmological models.* – 30 min.

KOROTEEV Petr (INR, Moscow)  
*Lorentz invariance violation in braneworld models.* – 30 min.

**Coffee Break: 17:10 — 17:30**

NIROV Khazret (INR, Moscow)  
*Gauge invariance, constraints, and BRST formalism:  
Classical theory and problems of quantization.* – 30 min.

KROTOV Dmitry (INR / MSU)  
*A Pure Spinor Superspace.* – 30 min.

PATRICK Anatoly (JINR, Dubna)  
*Euler walks.* – 30 min.

**April 18,      Wednesday**

**Morning**

Visit to Baksan Neutrino Observatory (bus starts at 9:30)

**Evening**

Conference Dinner (18:30)

**April 19, Thursday**

**Morning Session 9:30**

KUZMINOV Valery (INR, BNO)  
*Test of surface alpha-activity of different materials  
with ion pulse ionization chamber.* – 40 min.

BUDJAS Dusan (MPIK, Heidelberg)  
*High sensitive gamma-spectrometers of GERDA  
for material screening. Part 1* – 30 min.

HEISEL Mark (MPIK, Heidelberg)  
*High sensitive gamma-spectrometers of GERDA  
for material screening. Part 2* – 30 min.

**Coffee Break: 11:10 — 11:30**

SHIKHIN A.A. (INR, BNO)  
*Segmented high resolution fast neutron spectrometer:  
present status, response function.* – 30 min.

KAZALOV V.V. (INR, BNO)  
*Common analysis of background spectra of proportional  
counter filled with krypton enriched with Kr-78 and  
natural krypton* – 30 min.

BERNABE-HAIDER Marik (MPIK, Heidelberg)  
*Operation of bare HPGe detectors in liquid Argon  
and Nitrogen (in framework of the GERDA)* – 30 min.

**Evening Session 15:30**

DE BOER Wim (U. Karlsruhe)  
*Dark matter: What is it?* – 40 min.

PEETERS Simon (Lancaster University)  
*The Sudbury Neutrino Observatory* – 40 min.

**Coffee Break: 16:50 — 17:10**

MAJUMDAR Pratick (MPI, Munich)  
*Review of Very High Energy Gamma Ray Astronomy  
and Future Directions.* – 40 min.

YASHIN Igor I. (MEPhI, Moscow)  
*New approach to UHE cosmic ray investigations  
in the energy range  $10^{15} - 10^{19}$  eV.* – 40 min.

INZHECHIK Lev (Kurchatov Institute)  
*Isotopes: production methods and some applications.* – 40 min.

**April 20,      Friday**

**Evening Session      15:30**

MAJUMDAR Pratik (MPI, Munich)  
*Recent Results from the MAGIC Telescope.*      – 40 min.

SMOLNIKOV Anatoly (JINR / INR)  
*Status of the GERDA experiment.*      – 40 min.

**Coffee Break 16:50 — 17:10**

GORBUNOV Dmitry (INR, Moscow)  
*Studies of UHECR: Results... TBA?*      – 40 min.

LUKASH Vladimir (LPI, Moscow)  
*Cosmological model: from initial conditions to  
structure formation.*      – 30 min.

RUBAKOV Valery (INR, Moscow)  
*Particle physics and cosmology at crossroads.*      – 40 min.

April 21, Saturday

Morning Session 9:30

- DEMIDOV Sergei (INR, Moscow)  
*Sgoldstino Interpretation of HyperCP Events.* – 30 min.
- DUK Vyacheslav (INR, Moscow)  
*CKM Unitarity and Kaon Decays (Recent Experimental Results).* – 30 min.
- KIRSANOV Mikhail (INR, Moscow)  
*Detection of heavy Majorana neutrinos and right-handed bosons in CMS at LHC.* – 30 min.
- GORNUSHKIN Yuri (JINR, Dubna)  
*Neutrino Oscillation in OPERA experiment.* – 30 min.

Coffee Break: 11:30 — 11:50

- ALEXEENKO Viktor (INR, BNO)  
*Variation of counting rate as was measured with surface thermal neutron detector at Baksan Neutrino Observatory.* – 40 min.
- MUKHAMEDSHIN Rauf (INR, Moscow)  
*On study of the primary cosmic radiation in the "knee" range ( $10^{15} - 10^{16} eV$ ).* – 30 min.
- DZHAPPUEV D. (INR, Baksan)  
*Study for EAS hadronic component with hadrons energy  $> 50 GeV$*  – 30 min.

SARKAMO Juho (Oulu U.)  
*EMMA-experiment: an idea to measure cosmic ray composition* – 20 min.

**Evening Session 15:30**

KUZNETSOV A.V. (Yaroslavl State U.)  
*Plasma induced neutrino spin flip in a supernova and new bounds on the neutrino magnetic moment.* – 40 min.

DVORNIKOV Maxim (IZMIRAN)  
*Spin-flavor oscillations of ultrarelativistic neutrinos in an external magnetic field.* – 30 min.

BEZRUKOV Fedor (INR, Moscow / EPFL)  
*nuMSM and its experimental consequences.* – 30 min.

**Coffee Break: 17:10 — 17:30**

STERN Boris (INR, Moscow)  
*Supercritical phenomena in high energy astrophysics.* – 40 min.

RUDENKO Valentin (SAI, Moscow)  
*Gravitational wave experiments and a current status of the OGRAN project.* – 40 min.

VERKHODANOV Oleg (SAO, Nizhni Arkhyz)  
*Hubble parameter and  $\Omega_\Lambda$  from observations of radio galaxies.* – 40 min.

**\*\*\* Closing of the School. \*\*\***