

*XVth International Baksan School*

# **PARTICLES AND COSMOLOGY**

*Troitsk, Russia, 26 May -2 June, 2011*

**Preliminary program**

**Thursday, May 26**

**ARRIVAL. 17:00**

**REGISTRATION. 17:00-19:00**

**Dinner. 19:00-20:00**

**Friday, May 27**

**Breakfast. 9:00-10:00**

**Morning Session. 10:00**

1. *Opening*

2. Cherepashchuk A. (Sternberg Astron. Inst., Moscow)

*Black holes in binary systems* -40 min

3. Bernabei R. (University of Rome 'Tor Vergata')

*Dark matter particles in the galactic halo: results and perspectives* -40 min

Coffee Break. 11:35-11:55

4. Troendle D. (Karlsruhe Inst. of Technology)

*Search for SUSY at 7 TeV with the CMS Detector at the LHC* -40 min

5. Schoenert S. (Max-Planck-Inst., Heidelberg)

*New generation of experiments searching for neutrinoless double beta decay* -40 min

**Lunch. 13:30-15:30**

**Evening Session. 15:30**

1. Lukash V. (Lebedev Physics Inst., Moscow)

*Extrapolation of the Cosmological Standard Model Back in time and cosmogenesis* -30 min

2. Verkhodanov O. (SAO, Nizhnii Arkhiz)

*CMB anomalies in WMAP data* -30 min

3. Ramazanov S. (INR, Moscow)

*Scalar perturbations in conformal rolling scenario* -30 min

Coffee Break. 17:00-17:20

4. Naiden Y. (SAO, Nizhnii Arkhiz)

*Search for heterogeneity in CMB data by angular power spectrum* -30 min

5. Semikoz V. (IZMIRAN, Troitsk)

*Lepton asymmetries and hypermagnetic helicity evolution in Early Universe* -30 min

6. Savoiskii Y. (KBSU, Nalchik)

*Equations of state for expanding Universe* -30 min

**Dinner. 19:00-20:00**

**Saturday, May 28**

**Breakfast. 9:00-10:00**

**Morning Session. 10:00**

1. Bock R. (Max-Planck-Inst., Munich)  
*Very high energy gamma rays, their detection and their message* -40 min
2. Troitsky S. (INR, Moscow)  
*Ultra-high-energy cosmic rays and the Telescope Array experiment* -40 min
3. Ptuskin V. (IZMIRAN, Troitsk)  
*Acceleration of cosmic rays in supernova remnants* -40 min

Coffee Break. 12:00-12:20

4. Mukhamedshin R. (INR, Moscow)  
*On correlation between transverse momentum dependence on  $x_{lab}$  in hadron interactions and lateral features of most energetic particles in EAS core* -30 min
5. Smolnikov A. (JINR, Dubna)  
*LarGe-test facility for GERDA Phase II* -30 min

**Lunch. 13:30-15:30**

**Evening Session. 15:30**

1. Tkachov F. (INR, Moscow)  
*New statistical methods for data processing* -30 min
2. Lokhov A. (MSU, Moscow)  
*A systematic search for anomalies in the Troitsk nu-mass data* -30 min
3. Abdurashitov J. (INR, Moscow)  
*Scintillation response of LiF crystals at room temperature* -30 min

Coffee Break. 17:00-17:20

4. Tekueva J. (BNO INR, Baksan)  
*Sensitivity of the setup for the Xe-124 2K-capture search* -30 min
5. Gangapshev A. (BNO INR, Baksan)  
*Background of Ge detectors in LarGe after applying liquid Argon scintillation veto and pulse shape discrimination* -30 min
6. Shikhin A. (BNO INR, Baksan)  
*Development of the CGNT counting system for two-zone gallium experiment* -30 min

**Dinner. 19:00-20:00**

**Sunday, May 29**

**Breakfast. 9:00-10:00**

**Morning Session. 10:00**

1. Barabash A. (ITEP, Moscow)  
*Double beta decay: present status and prospects for the future* -40 min
2. Kuzminov V. (BNO INR, Baksan)  
*Test of time stability of Po-214 half-life* -30 min
3. Gangapshv A. (BNO INR, Baksan)  
*Present status of a search for double-beta decay of the Xe-136 in the BNO INR RAS* -30 min

Coffee Break. 11:40-12:00

4. Pelczar K. (Jagellonian U., Krakow)  
*Study of  $^{42}\text{K}$  ions and their mobility with the GERDA-LarGe facility* -30 min
5. Kazalov V. (BNO INR, Baksan)  
*Present result of a search for  $2\text{K}$ -capture of Kr-78 in the BNO INR RAS* -30 min
6. Rudenko V. (Sternberg Astron. Inst., Moscow)  
*Current status of GW experiments and national project OGRAN* -30 min

**Lunch. 13:30-15:30**

**Evening Session. 15:30**

1. Duk V. (INR, Moscow)  
*Search for heavy neutrino in  $K \rightarrow \mu\nu\gamma$  decay at ISTRAP+ setup* -30 min
2. Khudyakov A. (INR, Moscow)  
*Study of  $K \rightarrow e\nu\pi^0$  decay at ISTRAP+ setup* -30 min
3. Podorozhny D. (SINP MSU, Moscow)  
*ASTROparticle Attack: proposals on Russian program of study of high- and superhigh-energy cosmic rays* -30 min

Coffee Break. 17:00-17:20

4. Satunin P. (MSU, Moscow)  
*Probes of Lorentz violation* -30 min
5. Naumov D. (JINR, Dubna)  
*Vacuum neutrino oscillations with relativistic wave packets in quantum field theory* -30 min
6. Dvornikov M. (IZMIRAN, Troitsk)  
*Relativistic quantum mechanics description of neutrino oscillations in matter and magnetic field* -30 min

**Dinner. 19:00-20:00**

**Late Evening Session. 20:00**

1. Stokov V. (Lebedev Physics Inst., Moscow)  
*Spherically symmetric sources of gravitational field with integrable singularity* -30 min
2. Levkov D. (INR, Moscow)  
*Hawking radiation as tunneling: searching for relevant solutions* -30 min
3. Zenkevich E. (MSU, Moscow)  
*Constraint on holographic technicolor* -30 min

**Monday, May 30**

**Stanislav Mikheev Memorial Day**

**Breakfast. 9:00-10:00**

**Morning Session. 10:00**

1. Gavrin V. (INR, Moscow)

*Contribution of Ga experiments for understanding of the Sun physics and the physics of neutrino* -40 min

2. Ainutdinov V. (INR, Moscow)

*Project of km-3 scale neutrino telescope in Lake Baikal-NT1000* -40 min

3. Von Feilitzsch F. (Technical U. of Munich)

*Lena: a new European neutrino Observatory* -40 min

Coffee Break. 12:00-12:20

4. Frere J.-M. (Brussels U.)

*Why neutrinos are different?* -40 min

5. Kudenko Yu. (INR, Moscow)

*Neutrino oscillations at the accelerators* -30 min

**Lunch. 13:30-15:30**

**Evening Session. 15:30**

1. Gaponenko A. (BNO INR, Baksan)

*Search for very short gamma-ray bursts from evaporating primordial black holes* -30 min

2. Kostyuk M. (BNO INR, Baksan)

*Temperature variations of high energy muon flux* -30 min

3. Kudzhaev A. (BNO INR, Baksan)

*Study for muon and hadron components of EAS core at the height 1700 m above sea level*  
-30 min

Coffee Break. 17:00-17:20

4. Sinev V. (INR, Moscow)

*TBA* -30 min

5. Butkevich A. (INR, Moscow)

*Long baseline neutrino experiments and quasi-elastic neutrino scattering off nucleus* -30 min

6. Gorbachev V. (BNO INR, Baksan)

*Sage neutrino source experiments* -30 min

**Dinner. 19:00-20:00**

**Tuesday, May 31**

**Breakfast. 9:00-10:00**

**Excursion to Troitsk. Part I**

**Lunch. 13:30-15:30**

**Excursion to Troitsk. Part II**

**Conference Dinner. 19:00**



**Wednesday, June 1**

**Breakfast. 9:00-10:00**

**Morning Session. 10:00**

1. Bettini A. (University of Padova)  
*Perspective of underground physics* -40 min
2. Berezhiani Z. (University of L'Aquila & LNGS, Italy)  
*Neutron oscillations; a window to a parallel world?* -30 min
3. Rudenko V. (Sternberg Astron. Inst., Moscow)  
*Tests of the Newton laws at short distances* -30 min

Coffee Break. 11:40-12:00

4. Besrukov F. (Max-Planck-Inst., Heidelberg)  
*Higgs inflation: consistency and perspective* -30 min
5. Romyantsev D. (Yaroslavl State U.)  
*Resonant axion production in magnetar magnetosphere* -30 min
6. Kuznetsov A. (Yaroslavl State U.)  
*Neutrino-triggered asymmetric magnetorotational mechanism for pulsar natal kick* -30 min

**Lunch. 13:30-15:30**

**Evening Session. 15:30**

1. Khokonov A. (KBSU, Nalchik)  
*Neutron stars structure and equations of state* -30 min
2. Dobrynina A. (Yaroslavl State U.)  
*Bound on neutrino mass of the fourth generation* -30 min
3. Kamarzaev A. (KBSU, Nalchik)  
*New KBSU neutron monitor on Terskol peak* -30 min

Coffee Break. 17:00-17:20

4. Matushko V. (INR, Moscow)  
*Response of a capture-gated fast neutron spectrometer of a simple geometry* -30 min
5. Efendiev K. (BNO INR, Baksan)  
*Influence of a surface relief on the alpha particle spectra* -30 min
3. Mukhamedshin R. (Lebedev Physics Inst., Moscow)  
*On correlation between transverse momentum dependence on  $x_{lab}$  in hadron interactions and lateral features of most energetic particles in EAS core* -30 min

**Dinner. 19:00-20:00**

**Late Evening Session. 20:00**

1. Nirov Kh. (INR, Moscow)

*On group theoretic background of classical and quantum integrability* -30 min

2. Spiridonov V. (JINR, Dubna)

*Supersymmetric gauge field theories: superconformal indices and dualities* -30 min

3. Zhiboedov A. (Princeton U., USA)

*Form factors in  $N=4$*  -30 min

4. Tokareva A. (MSU, Moscow)

*Mirror matter and invisible orthopositronium decay* -30 min

**Thursday, June 2**

**Breakfast. 9:00-10:00**

**DEPARTURE. 10:30**