



Совещание по прецизионной физике и фундаментальным физическим константам

Workshop on Precision Physics and Fundamental Physical Constants

(Dubna, 1-5 December, 2014)

Program

Sunday, November 30, 2014

19:00-20:00 Registration (hotel)

Monday, December 1, 2014

11:30-13:00 Registration (BLTP, 2 floor)

13:00-14:30 **Lunch**

14:30 D. Horvath (Wigner Research Centre for Physics, Budapest, Hungary) 40'

New data on the Higgs boson by CMS

15:15 L. Smirnova (MSU, Moscow) 40'

Searches for dark matter in pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS experiment at the LHC

16:00-16:30 **Coffee**

16:30 A. Malyshev (SPbSU, St.Petersburg) 25'

QED calculation of the ground-state energy of Be-like ions

17:00 A. Petrov (PNPI, SPbGU, St.Petersburg) 25'

Electric dipole moment search in molecular beam of thorium monoxide: Zeeman interaction in $ThO H^3\Delta_1$

17:30 L. Skripnikov (PNPI, St.Petersburg) 25'

Theoretical study of ThO for the electron electric dipole moment search

Tuesday, December 2, 2014

9:30 E. Konovalova (PNPI, Gatchina) 25'

Search for fine-structure constant variation in Ni II

10:00 L. Labzovsky (SPbSU, St.Petersburg) 25'

Ω -doubling and a limit for the enhancement of the electron EDM effect in diatomic molecules

10:30 M. Altaisky (Space Research Institute RAS, Moscow) 25'

Continuous wavelet transform for gauge theories

11:00-11:30 **Coffee**

11:30 K. Marinova (JINR) 40'

Nuclear charge radii: experiment, data and systematics

12:15 S.Karshenboim (MPQ & Pulkovo Obs, Garching, Germany) 40'

Determination of the proton charge radius

13:00-14:30

Lunch

14:30

A. Bednyakov (JINR) 40'

Two-loop electroweak contribution to the matching of α_s in the Standard Model

15:15

A. Arbuzov (JINR) 40'

Аномальный магнитный момент мюона вне массовой поверхности

16:00-16:30

Coffee

16:30

A. Kudashov (SPbSU, St.Petersburg) 25'

On the use of $^{207}\text{Pb}^{19}\text{F}$ in the search for temporal variation of the fundamental constants

17:00

D. Solovyev (SPbSU, St. Peterburg) 25'

Hydrogen and Antihydrogen spectra in presence of external fields

Wednesday, December 3, 2014

9:30

V. Ovsyannikov (Voronezh State University, Voronezh) 40'

Higher-order constraints on precision of the time-frequency metrology of atoms in optical lattices

10:15

P. Fiziev (JINR) 40'

Variability of the Gravitational Constant - Forty-Three Years Later

11:00-11:30

Coffee

11:30

D. Horvath (Wigner Research Centre for Physics, Budapest, Hungary) 40'

ASACUSA: CPT-tests with antiprotonic helium

12:15

V. Korobov (JINR) 40'

Ro-vibrational spectroscopy of the hydrogen molecular ion and antiprotonic helium

13:00-14:30

Lunch

14:30

D. Bakalov (Institute for Nuclear Research and Nuclear Energy, Sofia, Bulgaria) 40'

Progress in the theoretical background of high precision experimental tests of fundamental physics

15:15

V. Melezhik (JINR) 40'

Controllable narrowing of magnetic Feshbach resonances in atomic traps

16:00-16:30

Coffee

16:30

V. Mostepanenko (Pulkovo Obs. & SPbSPU, St.Petersburg) 40'

New precision experiments on the Casimir force sharpen problems in foundations of quantum statistical physics

17:15

M. Kozlov (PNPI, St.Petersburg) 40'

Optical transitions in highly charged ions

Thursday, December 4, 2014

9:30

A. Krutov (Samara State U.) 25'

Лэмбовский сдвиг в ионах мюонного гелия ($\mu_2^{3,4}\text{He}$)⁺

10:00

D. Shemyakin (Budker Institute of nuclear physics, Novosibirsk) 25'

Preliminary results of the hadronic cross sections measurements with the CMD-3 detector at electron-positron collider VEPP-2000

10:30

A. Zakharov (ITEP, Moscow) 25'

Shadow size measurements as a tool to evaluate Λ -term

11:00-11:30

Coffee

11:30

S. Levshakov (Ioffe Physical-Technical Institute, St.Petersburg) 40'

- Local tests of spatial variations of m_e/m_p*
- 12:15** M. Onegin (PNPI, Gatchina) 40'
Constraints from Oklo reactor analysis on parameters of BSBM model of varying
- 13:00-14:30** **Lunch**
- 14:30** N. Kolachevsky (LPI RAS & Russian Quantum Center Moscow) 40'
Spectroscopy of laser cooled Thulium atom
- 15:15** G. Klimchitskaya (Pulkovo Obs. & SPbSPU, St.Petersburg) 40'
Constraints on axion-nucleon coupling constants from measurements of the Casimir interaction
- 16:00-16:30** **Coffee**
- 16:30** K. Khabarova (P.N.Lebedev Physical Institute, Moscow) 25'
Progress in deep laser cooling of Strontium at VNIIFTRI
- 17:00-18:00** **Poster session**
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|-------------------|--|
| V. Agababaev | <i>Quantum electrodynamical correction to the quadratic Zeeman effect</i> |
| O. Andreev | <i>Method for production of highly charged ions with polarized nuclei and zero total electron angular momentum</i> |
| D. Chubukov | <i>Electric dipole moment of electron and P,T-odd electron-nucleus interaction in highly charged ions</i> |
| S. Fedorov | <i>Ti:sapphire femtosecond frequency comb for optical frequency metrology in the NIR region</i> |
| D. Koptsov | <i>Измерение релаксации распределения зарядов на поверхности плавленого кварца под действием электростатического поля</i> |
| K. Lyashchenko | <i>Calculation of differential cross section for dielectronic recombination with one-electron uranium</i> |
| N. Makhaldiani | <i>Renormdynamics of Coupling Constants and Masses</i> |
| T. Shpakovsky | <i>Linear Paul trap for confinement of Al^+ and Mg^+ ions</i> |
| V. Sorokin | <i>Сверхтонкая структура S- и P-состояний мюонного дейтерия</i> |
| A. Ulybin | <i>Сверхтонкая структура ионов мюонного лития</i> |
| T. Zalialiutdinov | <i>Spin-statistic selection rules for multi-equal-photon transitions in atoms: extension of the Landau-Yang theorem to multiphoton systems</i> |

Friday, December 5, 2014

- 9:30** Yu. Dumin (MSU) 25'
Non-destructive Diagnostics of Antihydrogen by the Characteristic Spectra of Microwave Ionization
- 10:00** D. Cirilo-Lombardo (JINR) 25'
Solar neutrinos, helicity effects and new affine gravity with torsion
- 10:30** A. Silenko (JINR) 25'
Experimental bounds for space time torsion
- 11:00-11:30** **Coffee**
- 11:30** O. Teryaev (JINR) 40'
Interplay of torsion, equivalence principle and Lorentz symmetry violation in spin dragging