



INTERNATIONAL WORKSHOP ON
FEW-BODY SYSTEMS
(FBS-Dubna-2016)

BLTP, JINR, Dubna, Russia, July 4 – 7, 2016

PROGRAMME*

July 5, Tuesday

- 09:00 - 09:40 REGISTRATION
- 09:45 - 10:00 WORKSHOP OPENING
- 10:00 - 10:30 JEAN-MARC R. RICHARD (Villeurbanne, France)
Stability domain of few-charge systems
- 10:30 - 11:00 JANOS RÉVAI (Budapest, Hungary)
Three-body calculation of the 1s level shift in kaonic deuterium with realistic multichannel $K\bar{N}$ interactions
- 11:00 - 11:30 SERGEY L. YAKOVLEV (St. Petersburg, Russia)
Asymptotic solution to multichannel scattering problem with nontrivial asymptotic nonadiabatic coupling
- 11:30 - 11:50 **COFFEE BREAK**
- 11:50 - 12:20 VASILY V. PUPYSHEV (JINR)
Two-dimensional Coulomb scattering of a quantum particle: Low-energy approximations of the wave-functions
- 12:20 - 12:50 OLEG I. KARTAVTSEV (JINR)
Exact and qualitative results in the two-species few-body problem
- 12:50 - 13:20 VLADIMIR S. MELEZHIK (JINR)
Confinement-induced resonances in ultracold atom-ion systems
- 13:20 - 13:50 ELENA A. KOLGANOVA (JINR)
Weakly bound He_2Li molecules
- 13:50 - 15:00 **LUNCH BREAK**
- 15:00 - 15:30 SAIDAKHMAT N. LAKAEV (Samarkand, Uzbekistan)
The existence of bound states in a system of three particles in an optical lattice
- 15:30 - 16:00 VALERY L. GEYNTS (Moscow, Russia)
Stability of the inverse resonance problem
- 16:00 - 16:30 VLADIMIR YUROVSKY (Tel Aviv, Israel)
Consequences of non-Abelian permutation symmetry in systems of spinor particles
- 16:30 - 16:50 **COFFEE BREAK**
- 16:50 - 17:20 OLGA A. RUBTSOVA (Moscow, Russia)
Continuum discretization for quantum scattering in medium
- 17:20 - 17:50 NINA SHEVCHENKO (Řež, Czech Republic)
Three-body systems with strangeness
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July 6, Wednesday

- 10:00 - 10:30 TOBIAS FREDERICO (São José dos Campos, Brazil)
Scale symmetry breaking and limit cycle in four boson systems
- 10:30 - 11:00 RUDOLF GRIMM (Innsbruck, Austria)
Few-body physics with ultracold atoms: Efimov and beyond
- 11:00 - 11:30 CHRISTIAN FEY (Hamburg, Germany)
Towards field control of polyatomic ultralong-range Rydberg molecules
- 11:30 - 11:50 **COFFEE BREAK**
- 11:50 - 12:20 ALEXANDER K. MOTOVILOV (JINR)
Eigenvectors of multichannel scattering matrices at resonance energy values
- 12:20 - 12:50 SERGEI A. RAKITIANSKI (Pretoria, South Africa)
Residues of a multi-channel S-matrix at the spectral points
- 12:50 - 13:20 VLADIMIR A. ROUDNEV (St. Petersburg, Russia)
Multichannel Coulomb scattering calculations with Merkuriev-Faddeev equations
- 13:20 - 13:50 EVGENY A. YAREVSKY (St. Petersburg, Russia)
Potential splitting approach to $e-H$ and $e-He^+$ scattering
- 13:50 - 15:00 **LUNCH BREAK**
- 15:00 - 15:30 BAKHADIR F. IRGAZIEV (Tashkent, Uzbekistan)
Determination of resonance-state properties from a phase shift analysis with the S-matrix pole
- 15:30 - 16:00 ILYAS ISHMUKHAMEDOV (JINR)
Two atomic tunneling dynamics in a waveguide-like trap
- 16:00 - 16:30 EVGENI A. SOLOV'EV (JINR)
Dynamical adiabatic theory of atomic and nuclear collisions
- 16:30 - 16:50 **COFFEE BREAK**
- 16:50 - 17:20 PAVEL ZARUBIN (JINR)
Unstable nuclei in dissociation of light stable and radioactive nuclei
- 17:20 - 17:50 ASHOT S. GEVORKYAN (Erevan, Armenia)
Classical nonintegrability, quantum irreversibility and chaos on the example of three-body problem

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July 7, Thursday

- 10:00 - 10:30 VLADIMIR I. KUKULIN (Moscow, Russia)
Nuclear physics with dibaryon degrees of freedom
- 10:30 - 11:00 MARIAN JANEK (Žilina, Slovakia)
Experimental studies of the few-body systems at Nuclotron
- 11:00 - 11:30 OLEKSANDR V. SHEBEKO (Kharkov, Ukraine)
*Gauge-independent treatment of radiative capture in nuclear reactions:
Application to the theory of nucleus-nucleus Bremsstrahlung*
- 11:30 - 11:50 **COFFEE BREAK**
- 11:50 - 12:20 FEDOR M. PEN'KOV (Almaty, Kazakhstan)
Contribution of resonant tunneling to quantum diffusion of molecules in crystals
- 12:20 - 12:50 ALEXANDER GUSEV (JINR)
On tunneling problem of the two-atomic molecule on whole axis
- 12:50 - 13:20 SERGUE I. VINITSKY (JINR)
*Quantum transmission of clusters with several identical particles
through barriers and wells*
- 13:20 - 13:50 ANASTASIA V. MALYKH (JINR)
One-dimensional three-body problem with inverse-square two-body interaction
- 13:50 - 15:00 **LUNCH BREAK**
- 15:00 - 15:30 M. LESLIE LEKALA (Pretoria, South Africa)
On the construction of reliable Y-Y interactions via inverse scattering method
- 15:30 - 16:00 YURI POPOV (Moscow, Russia)
Dynamics of atomic hydrogen in strong low frequency laser field
- 16:00 - 16:30 VIACHESLAV V. SAMARIN (JINR)
Study of ground states of few-body nuclei by Feynman's continual integrals method
- 16:30 - 16:50 **COFFEE BREAK**
- 16:50 - 17:20 GENIS MUSULMANBEKOV (JINR)
The role of quarks in nuclear structure. Borromean nuclei
- 17:20 - 17:50 NUGZAR MAKHALDIANI (JINR)
Renormdynamics and solvable models of strong interactions
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