PARALLEL SESSIONS

DURATION OF PRESENTATIONS:

- **BOLD**: 20+5 mins
- Contributed: 15+4 mins

*Few-body aspects of atomic and molecular physics* [FB_A&M]

**Session 1 (Long)**

J-P. Karr  Accurate solutions of the three-body Coulomb problem, and applications to molecular QED

E. Kolganova Van der Waals three-body systems, potentialities for Efimov state observations
- Analytic model of a multi-electron atom (201427)  O. Skoromnik
- Energy spectra of excitons in square quantum wells (204833)  S. Yakovlev
- Ultracold three-body rare gas atomic clusters (205140)  A. Korobitsin

**Session 2 (Short)**

A. Mery  Fragmentation dynamics of atomic and molecular dimers
- Electron impact ionization of molecules for different momentum transfers (205824)  L.U. Ancarani
- Discrete scaling and scattering properties from atom-dimer collision (202022)  L. Tomio
- A three-body system in two dimensions (205748)  M. Zimmermann

**Session 3 (Short)**

M. Safronova  Relativistic high-precision methodologies for atomic calculations
- Anyons from Three-Body Hard-Core Interactions in One Dimension (205858)  N. Harshman
- Trions in three-, two- and one-dimensional materials (204732)  R. Kezerashvili
- Transition exponent and condensate fluctuation of mesoscopic Bose-Einstein condensate in anharmonic trap (205588)  M. Lekala

**Session 4 (Short)**

Bing Zhu  Exploring few- and many-body physics with an ultracold Bose-Fermi mixture of a large mass imbalance
- Probing three-body collisions induced by a charge impurity in an ultracold gas (205811)  H. da Silva Jr
- Low-dimensional few-body processes in confined geometry of atomic and hybrid atom-ion traps (205525)  V. Melezhik
- Potential splitting approach for atomic and molecular systems (205207)  E. Yarevsky

**Session 5 (Short)**

Y. Nagashima  Positronium negative ions: the simplest three body state composed of a positron and two electrons
- Influence of the strong $\bar{\text{p}}$-$\text{p}$ nuclear interaction on the rate of the low-energy three-body reaction between $\bar{\text{p}}$-$\text{p}$ and $\text{p}$-$\mu^-$ (205818)  R. Sultanov
- Formation of few-electron complexes (193508)  H. Klar
- Three-electron bound states in conventional superconductors (198752)  A. Sanaye
Session 6 (Short)
A. Browaeys  Experimental many-body physics using arrays of individual atoms
Kang-Kuen Ni  Building Single Molecules - collisions and reactions of two atoms
- Few-body interactions in a cold Rydberg gas (205614) P. Cheinet
- Three two-species fermions with contact interactions (204638) A. Malykh

Hadron physics and related high-energy physics  [FB_Hadron]

Session 1 (Long)
C. Lorcé  The origin of the nucleon mass
- Light Hadron Spectroscopy at BESIII (205316) S. Fang
- The Pion as a tool for discovering new physics (205298) L. Doria
- The pseudoscalar glueball puzzle (205571) Qiang Zhao
- The proton form factors obtained in double-polarization experiments (205514) V. Punjabi
- Energy-momentum tensor for unpolarized proton target (205718) A. Trawiński

Session 2 (Long)
T. Peña  Relativity in few-hadron systems: analysis of baryon electromagnetic transition form factors in the Covariant Spectator Theory
- Masses and structure of heavy quarkonia and heavy-light mesons in a relativistic quark model in Minkowski space (205723) A. Stadler
- On the inversion of the Nakanishi Integral Representation for relativistic bound state problems in Minkowski space (204574) T. Frederico
- Relativistic effects in non-relativistic calculations of electroweak cross sections (204313) G. Orlandini
- Bethe-Salpeter approach to three-body bound states with zero-range interaction (203932) E. Ydrefors
- Relativistic Faddeev Calculation for Nd Scattering with Kharkov Potential (199113) H. Kamada

Session 3 (Long)
M. Doering  Baryon resonances with dynamical coupled channels theory
- Narrow resonance N^+(1685) and eta photoproduction (204522) Jung Min Suh
- Description of the Zc exotic states in a quark model coupled-channels calculation (202668) F. Fernandez
- S/\psi J/\psi-D\bar{D}\bar{D}$ potential described by the quark exchange diagram (204977) Y. Yamaguchi
- Exotic Quantum States for Charmed Baryons at Finite Temperature (192972) Pengfei Zhuang
- Few-Body Methods and Results for Hadrons In-Medium (204048) Yuxin Liu

Session 4 (Short)
G. Krein  Nuclear-bound heavy-flavor hadrons
- Hidden-charm and bottom meson-baryon molecules coupled with five-quark states (204427) A. Giachino
- A meson-baryon molecular interpretation for some Ω_c^+ excited states (198766) G. Montaña
- Threshold Effects and the Line Shape of the X(3872) in Effective Field Theory (203933) M. Schmidt
Session 5 (Short)

Hyun-Chul Kim  
**Excited Omega-CS as heavy pentaquarks**
- Pion-cloud contribution to the $SN\rightarrow\Delta$ transition form factors (205690)  *Ju-Hyun Jung*
- Pion effects in $SN$ and $\Delta$ masses and strong form factors (205200)  *W. Plessas*
- Mesons studies with a contact interaction (202502)  *M.A. Bedolla*

Session 6 (Short)

M. Defurne  
**Accessing the generalized parton distributions in the valence region at Jefferson Laboratory**
C. Mezrag  
**Parton distribution amplitudes: revealing diquarks in the proton and Roper resonance**
W. de Paula  
**Pion valence momentum distributions: response to massive effective gluons**

**Strange and exotic matter including hypernuclear physics  [FB_Exotic]**

Session 1 (Long)

T. Saito  
**Hypernuclear spectroscopy with heavy ion beams: the present status and the perspective**
- Hyperon- and hypernuclear physics with PANDA at FAIR (204831)  *K. Schoenning*
- Production of hypernuclei and strange particles in spallation reactions at a few GeV using an intranuclear cascade approach (199443)  *J.-Ch. David*
- Search for the eta-mesic helium in proton-deuteron and deuteron-deuteron reactions (196370)  *M. Skurzok*
- Studies of the $\bar{K}NN$ bound state via the exclusive analysis of the in-flight $(K^{-}, n)$ reaction a J-PARC (205717)  *T. Yamaga*
- Quasi-bound state in the $\bar{K}NNN$ system (204314)  *N. Shevchenko*

Session 2 (Short)

J. Haidenbauer  
**Baryon-baryon interaction in chiral effective field theory**
- BS-$\Lambda$(S^+\Lambda) from short range effective theory (202622)  *L. Contessi*
- Construction of a local $\bar{K}$-$\pi$-$\Sigma$-$\pi$-$\Lambda$ potential and composition of the Lambda(1405) (205154)  *T. Hyodo*
- Are the chiral based $\bar{K}N$ potentials really energy-dependent? (201458)  *J. Revai*

Session 3 (Short)

E. Liédard  
**Probing the Standard Model with beta-decay experiments**
- Zero-Range Effective Field Theory for Resonant Wino Dark Matter (205826)  *E. Braaten*
- Time Reversal Violation in two and three Nucleon Systems (205850)  *A. Gnech*
- Few Nucleon Experiments in The Hadronic Weak Interaction (205873)  *J. Fry*
Few-body methods in nuclear physics and astrophysics + Few-nucleon systems including QCD inspired approaches  [FB_Nucl&QCD]

Session 1 (Long)
P. Descouvemo  Four-body effects in nucleus-nucleus scattering
- Astrophysical S-factor of the direct alpha(d; gamma)6Li capture reaction in a three-body model  (193447) E.M. Tursunov
- Direct measurement of the 13C(a,n)16O reaction at LUNA  (198578) G.F. Ciani
- A new measurement of the 2H(p,g)3He cross section in the BBN energy range at LUNA  (205709) F. Cavanna
- S-factor and scattering-parameters from He-3(alpha, gamma) data  (204459) D. Phillips
- Observation of new neutron resonances in 17,19C  (205573) Y. Sato

Session 2 (Long)
O. Sorlin  Evolution of neutron correlations when reaching the drip line
- Exploring the p-n interaction close to the drip-line in the fluorine isotopic chain  (205279) A. Revel
- A few-body analysis for the proton-neutron correlation in N=Z nuclei  (205242) H. Masui
- The first unbound states in the A=9 mirror nuclei 9B and 9Be  (205197) M. Odsuren
- Boron isotopes at the dripline: the 19B case  (200600) J. Gibelein
- Glauber model analysis for the 22C nuclear radius  (203632) W. Horiuchi

Session 3 (Long)
Y. Kondo  Experimental studies of unbound neutron-rich nuclei
- Theoretical studies of few-body phenomena in light exotic nuclei  (204687) L. Grigorenko
- Search for dineutron correlation in borromean halo nuclei  (198591) A. Corsi
- Three-body description of 2n-halo and unbound 2n-systems: 22C and 26O  (196481) J. Singh
- Structure of Beryllium isotopes beyond the neutron dripline  (204692) B. Monteagudo
- Two-nucleon emitters within a pseudostate approach  (205640) J. Casal

Session 4 (Long)
J. Rotureau  Combining structure and reactions: construction of microscopic optical potentials
- Ab initio folding potentials for proton-nucleus scattering based on NCSM nonlocal one-body densities  (200456) Ch. Elster
- Description of scattering reactions of deuteron projectiles using the Gamow Shell Model with the Resonating Group Method  (205360) N. Michel
- A new ab initio approach for nuclear reactions based on the symmetry-adapted no-core shell model  (205872) A. Mercenne
- Cluster configuration effects in elastic scattering of light proton and neutron-rich nuclei  (205822) V. Guimaraes
- Elastic $\alpha$-$^2$H+$^4$He scattering at low energies with the bound states of $^6$O in effective field theory  (202163) S.-I. Ando
Session 5 (Long)
A. Volya  Microscopic studies of alpha clustering in light nuclei
- The Hoyle Family: precision break-up measurements to explore nuclear alpha-condensates
  (205964) R. Smith
- Background free measurement of the γ-decay of the 17.64MeV (1⁺) state in ⁸Be (205651) H.O.U. Fynbo
- Investigating ¹⁶O above the 4-alpha breakup threshold (205757) J.A. Swartz
- Tensor correlations in alpha clustering studied with antisymmetrized quasi cluster model (203677)
  Y. Kanada-En’yo
- A CDCC extension to microscopic three-cluster projectiles (202986) E. Pinilla

Session 6 (Long)
G. Hupin  p-shell Structure Through the Looking-Glass of Ab Initio Transfer Reactions
- How To Use Renormalization Group Analysis in Lattice Nuclear Effective Field Theory (205600) K. Harada
- Low-Energy QCD Research at TUNL (205882) C. Howell
- Ab initio calculations for p-shell nuclei with Daejeon16 (202559) Y. Kim
- Single-State HORSE method for description of resonant states within the nuclear Shell Model
  (203386) A. Mazur
- Properties of Light Lattice Nuclei from Effective Field Theory (205864) N. Barnea

Session 7 (Long)
E. Piasetzky  Components of polarization-transfer to a bound proton in a deuteron measured by
  quasi-elastic scattering
- Three-nucleon continuum reactions with semilocal coordinate-space regularized chiral forces
  (199650) H. Witala
- Three-nucleon force studies in p-d break-up reaction with BINA at 190 MeV (205130)
  I. Ciepala
- Few-Nucleon System Dynamics Studied via Deuteron-Deuteron Collisions at 160 MeV (205037)
  M. Mohammadi-Dadkan
- Differential cross section for deuteron breakup in collision with proton - measurements at
  intermediate energies (205739) E. Stephan
- Nuclear short-range correlations - The contact relations (201133) R. Weiss

Session 8 (Long) - Special session on LQCD
Y. Ikeda  Hadron interactions from lattice QCD - application to hadron resonances
T. YamazakiRelation between scattering amplitude and Bethe-Salpeter wave function inside
  interaction range
E. Berkowitz  Towards Grounding Nuclear Physics in QCD
K. Hadjiyiannakou  Nucleon structure from LQCD
- Dibaryon candidates in decuplet baryons from lattice QCD (205594) S. Gongyo

Session 9 (Long) - Special session on multineutrons
Ch. Greene  Adiabatic hyperspherical picture of 3n and 4n states
J.E. Lynn  Few neutron resonances from chiral effective field theory
E. Hiyama  Structure of tetra neutron system
M. Viviani  Four-body continuum with 3N-forces
- Tetraneutron resonance in the Single-State HORSE approach (203027) A. Shirokov
Session 10 (Short) - Multineutrons (cont)
S. Shimoura  Tetra-neutron system populated by RI-beam induced reactions
Z. Yang  Study of multineutron systems with SAMURAI
- Five-nucleon systems with an hyperspherical harmonic method (205796) J. Dohet-Eraly
- High-precision nucleon-nucleon potentials from chiral EFT (205553) P. Reinert

Session 11 (Short)
Y. Maeda  Experimental analysis of few-body physics
- Measurement of $^3$He analyzing power for p-3He elastic scattering at 70 MeV (205653) A. Watanabe
- Measurement for p-$^3$He elastic scattering with a 65 MeV polarised proton beam (205650) S. Nakai
- Complete set of deuteron Analyzing Powers for $dp$ Elastic Scattering at 70--300 MeV/nucleon and Three-Nucleon Forces (205209) K. Sekiguchi

Session 12 (Short)
A. Deltuva  Collisions in few-neutron systems
- Three-body approach to deuteron-alpha scattering and bound state using realistic forces in a separable or non-separable representation (205513) L. Hlophe
- Inclusive breakup reaction of a two-fragment projectile on a two-fragment target: A genuine four-body problem (204476) M. Hussein
- Three-nucleon force contribution to the distorted-wave theory of (d,p) reactions (203231) N. Timofeyuk

Session 13 (Short)
M. Mihovilovic  Electron scattering experiment on light systems
- Electromagnetic sum rules in light nuclei (204570) S. Bacca
- Polarisabilities from Compton Scattering on $^3$He -- and Beyond (204745) H. Griesshammer
- Momentum Distributions and Short-Range Correlations in 3He with Chiral Potentials (201762) L.E. Marcucci

Interdisciplinary aspects of few-body physics and techniques [FB_Interdiscip]

Session 1 (Long)
P. Naidon  Tetramers of 2+2 bosons
- Universality and the Coulomb interaction (204681) Ch. Schmickler
- Universality in few-body systems (205853) P. Stipanović
- Universal relations for heteronuclear few-body systems (205738) L. Platter
- Universal Phillips lines for identical bosons and particles of different masses (204987) V. Roudnev
- Fate of the neutron-deuteron virtual state as an Efimov level (205331) G. Rupak

Session 2 (Long)
W. Polyzou  Scattering using real-time path integrals
- Equivalence between the complex rotation resonances and scattering matrix resonances (205830) A. Motovilov
- Complex-Range Gaussians as a Basis for Treatment of Charged Particle Scattering (199036) D. Sailaubek
- Hyperspherical Harmonics Method with Particle Excitation Degrees of Freedom (205414) W. Leidemann
- Nuclear Reaction near the Three-Body Thresholds (204947) S. Oryu
- Conformality lost In Efimov Physics (204912) A. Mohapatra
Session 3 (Short)
A. Kievsky  Bosonic drops with two- and three-body interactions close to the unitary limit
  - The problem of cluster separability in relativistic few-body systems (197800) W. Schweiger
  - Asymmetric regularization and the universal character of the helium-4 spectrum (206772) J. Kirschner
  - A simple tool to study many-body forces (200138) C. Semay

Session 4 (Short)
Chen Ji  Ab initio calculation of nuclear-structure effects in muonic atoms
  - Some new ideas for the proton radius puzzle (205716) Ch. Allton
  - The deuteron-radius puzzle is alive: a new analysis based on chiral EFT theory (204142) O.J. Hernandez
  - Dipole-dipole dispersion interactions between neutrons (205870) R. Higa