International symposium on frontiers in nuclear physics

Report of Contributions

https://indico.ihep.ac.cn/e/2303

Contribution ID: **0** Type: **not specified**

Recent developments in the strange production via hadron photoproductions

Wednesday, 2 November 2011 17:00 (30 minutes)

In this talk, we present the recent developments in the strange production via hadron photoproductions, taking into account the theoretical and experimental progresses, achieved by us and the experimental collaborations at SPring-8 and Jefferson laboratory. We focus on the Lambda(1520) photoproduction with the Feynman-Regge interpolation prescription, which interpolates the low- and high-energy physics smoothly. On top of the success of our theoretical framework in comparison to the LEPS collaboration experiments, it turns out that the phenomenological interpolation prescription reproduces physical quantities qualitatively very well for the relatively wide energy ranges. We close this talk with several problematic issues to be addressed and future perspectives.

Primary author: Dr NAM, Seung-il (Korea Institute for Advanced Study)

Co-author: Prof. KAO, Chung-Wen (CYCU)

Presenter: Dr NAM, Seung-il (Korea Institute for Advanced Study)

Contribution ID: **1** Type: **not specified**

Tensor interaction in the extended Brueckner-Hartree-Fock theory

Thursday, 3 November 2011 17:30 (30 minutes)

There is a strong tensor interaction in the nucleon-nucleon interaction due to the pion exchange interaction. The tensor interaction cannot be treated within the Hartree-Fock approximation. We have developed an extended Brueckner-Hartree-Fock theory to treat the tensor interaction. With the use of the Bonn potential we are able to reproduce the saturation property of nuclear matter. We can show that the ground state wave function contains large momentum components.

Primary author: Prof. TOKI, Hiroshi (RCNP, Osaka University)

Co-authors: Dr HU, Jinniu (RCNP, Osaka University); Ms OGAWA, Yoko (RCNP, Osaka University)

Presenter: Prof. TOKI, Hiroshi (RCNP, Osaka University)

Contribution ID: **2** Type: **not specified**

Possible direct evidence of tensor interaction in heavy nucleus studied via (p,d) reaction

Thursday, 3 November 2011 14:00 (30 minutes)

The tensor interaction which originates from the pion exchange is an essential interaction that provides the important two-body attraction in the nuclear forces. The importance of the tensor force has been demonstrated to reproduce the properties of nuclear matter as well as to explain the binding energies of the deuteron and alpha particles. In heavier nuclei, results from recent experiments with radioactive-isotope beams have hinted at a possible important role of the tensor forces in the changes of the magic numbers and the orders of single-particle orbitals in neutron-rich nuclei. However, the experiment evidences other than those from the deuteron are indirect. Hence, to search for direct evidence of the tensor interaction in heavier nuclei, we carried out (p,d) reaction measurements on 12C and 16O.

The tensor interaction is expected to give rise to high momentum components in nuclei. In this talk, we will report on an observation of enhancements of high momentum neutrons, which may indicate a direct evidence of tensor interaction.

The experiment was performed at the RCNP WS course using the Grand Raiden spectrometer. Proton beams at three energies: 198, 295 and 392 MeV, with intensities around 5 – 10 nA, were directed onto a natural carbon or an ice target placed in a scattering chamber before the GR spectrometer. The scattered deuterons were momentum analyzed and transported to the focal plane of the GR, where they were detected by two drift chambers and two 10-cm-thick plastic scintillators. For each proton beam energy, measurements were performed at several scattering angles between 5 – 30 degrees to obtain data for different momentum transfers at around 2 fm^{-1} where marked effect of the tensor interaction is expected.

Primary authors: Dr ONG, Hooi Jin (RCNP, Osaka University); Prof. TANIHATA, Isao (RCNP/Beihang Univ.)

Co-authors: Prof. OZAWA, Akira (Tsukuba Univ.); Prof. TAMII, Atsushi (RCNP); Mr ISHIKAWA, Daiki (RCNP); Dr NISHIMURA, Daiki (RIKEN); Dr PANG, Danyang (Beihang Univ.); Prof. SAKAGUCHI, Harutaka (RCNP); Dr MATSUBARA, Hiroaki (CNS, Univ. of Tokyo); Prof. TOKI, Hiroshi (RCNP); Prof. OKAMURA, Hiroyuki (RCNP); Dr ZENIHIRO, Juzo (RIKEN); Prof. MATSUTA, Kensaku (Osaka Univ.); Prof. SEKIGUCHI, Kimiko (Tohoku Univ.); Mr HIROTA, Kousuke (RCNP); Prof. IKEDA, Kyomi (RIKEN); Ms TANIGUCHI, Manami (Nara Women's Univ.); Dr TAKASHINA, Masaaki (RCNP); Prof. YOSOI, Masaru (RCNP); Prof. FUKUDA, Mitsunori (Osaka Univ.); Dr MIHARA, Mototsugu (Osaka Univ.); Prof. KAWABATA, Takahiro (Kyoto Univ.); Dr MYO, Takayuki (Osaka Institute of Technology); Mr NAITO, Takuma (RCNP); Dr SUZUKI, Tomokazu (RCNP); Dr OGAWA, Yoko

(RCNP); Mr YASUDA, Yusuke (RCNP)

Presenter: Dr ONG, Hooi Jin (RCNP, Osaka University)

Contribution ID: **3** Type: **not specified**

No-Core MCSM calculation for ^{10}Be and ^{12}Be low-lying spectra

Thursday, 3 November 2011 16:00 (30 minutes)

The low-lying excited states of ^{10}Be and ^{12}Be are investigated within a no-core Monte Carlo Shell Model (MCSM) framework employing a realistic potential obtained via the Unitary Correlation Operator Method. The excitation energies of the 2_1^+ and 2_2^+ states and the B(E2; $2_1^+ \rightarrow 0_{g.s.}^+$) for ^{10}Be in the MCSM with a treatment of spurious center-of-mass motion show good agreement with experimental data. The deformation properties of the 2_1^+ , 2_2^+ states for ^{10}Be and of the 2_1^+ state for ^{12}Be are studied in terms of quadrupole moments, E2 transitions and the single-particle occupations. The E2 transition probability of ^{10}C, the mirror nucleus of ^{10}Be, is also presented. The triaxial deformation of ^{10}Be is tested by the B(E2; $2_2^+ \rightarrow 2_1^+$) value. The removal of the spurious center-of-mass motion shifts the 1_1^- level significantly, improving agreement with experiment.

Primary author: Dr LIU, Lang (Peking University)

Co-authors: Prof. ROTH, Robert (Institut f\"{u}r Kernphysik, Technische Universit\"{a}t Darmstadt); Prof. NORITAKA, Shimizu (Tokyo University); Prof. OTSUKA, Takaharu (Tokyo University); Prof. UTSUNO, Yutaka (Japan Atomic Energy Agency)

Presenter: Dr LIU, Lang (Peking University)

Contribution ID: **4** Type: **not specified**

Relativistic EOS for Supernova Simulations

Thursday, 3 November 2011 10:00 (30 minutes)

We construct the relativistic equation of state (EOS) of dense matter
covering a wide range of temperature, proton fraction, and density
for the use of core-collapse supernova simulations.
The study is based on the relativistic mean-field (RMF) theory,
which can provide an excellent description of nuclear matter and
finite nuclei. The Thomas-Fermi approximation is adopted to describe
the non-uniform matter, which is composed of a lattice of heavy nuclei. We present two types of results. The first one takes into account only the nucleon degree of freedom, while the second one considers additional contributions from Lambda hyperons. We tabulate the resulting EOS with an improved design of ranges and grids.

Primary author: Prof. SHEN, Hong (Nankai University)

Presenter: Prof. SHEN, Hong (Nankai University)

Contribution ID: **5** Type: **not specified**

Quantum scattering of three particles in stars: new understanding of the formation of 12C

Wednesday, 2 November 2011 14:00 (30 minutes)

One of the most important subjects of nuclear physics is to understand the origin of the elements surrounding us. In this talk I will focus on 12C, an essential element for life. It is well known that 12C is formed from three alpha (4He) particles in stars. Theoretical description of this reaction, however, has been oversimplified. I will explain how to formulate reaction rate of a ternary process, which begins with three-body scattering states, using the basic concept of the continuum-discretized coupled-channels method (CDCC). The reaction rate of the 12C formation process is calculated with the accurate picture of the three-body quantum scattering. The new rate is markedly larger than the previous one by more than 20 orders of magnitude at 10ˆ7 K. I will clarify where this difference comes from, by explaining what the previous model assumed. This study will lead one to new understanding of the “origin” of 12C.

Primary author: Prof. OGATA, Kazuyuki (RCNP, Osaka University)

Co-author: Dr KAMIMURA, Masayasu (RIKEN Nishina Center)

Presenter: Prof. OGATA, Kazuyuki (RCNP, Osaka University)

Contribution ID: **6** Type: **not specified**

Tensor properties and transverse spin structure of the nucleon

Wednesday, 2 November 2011 10:00 (30 minutes)

We present recent investigations on the tensor and anomalous tensor form factors of the nucleon based on the SU(3) chiral quark-soliton model. We also show the transverse spin densities of the nucleon, emphasizing the strange quark spin densities inside a nucleon.

Primary author: Prof. KIM, Hyun-Chul (Inha University)

Co-author: Dr LEDWIG, Tim (University Mainz)

Presenter: Prof. KIM, Hyun-Chul (Inha University)

Contribution ID: **7** Type: **not specified**

The parity-transfer reaction $(^{16}\mathrm{O},^{16}\mathrm{F})$ for studies of pionic 0^- mode

Thursday, 3 November 2011 12:00 (30 minutes)

The spin-isospin excitation modes in nuclei have been instrumental for
the understanding of nuclear structure for the several decades.
Spin-dipole (SD) $(L = 1, S = 1, J^\pi = 0^-, 1^-, 2^-)$ excitations have
been under extensive theoretical studies.
Isovector 0^- excitations are of particular interest
since they carry the simplest pion-like quantum number.
The distribution of 0^- states is expected to reflect pion-like correlations
in nuclei.
Recently, the effects of tensor correlations on the 0^- excitations
have been investigated by using a self-consistent HF+RPA calculations˜\cite{bai2010,bai2011}.
From the calculations, It is found that the tensor correlations produce
a strong hardening (shifting toward higher excitation energy) effect on the collective 0^- resonance,
and the effect is very sensitive to the magnitude of tensor strength.
Therefore, from the study of 0^- states,
we are able to pin down the tensor correlation effects.
In spite of its importance, experimental information on 0^- states is very limited.

We propose a new probe, a parity-transfer reaction $(^{16}\mathrm{O},^{16}\mathrm{F})$ for the 0^- study.
The parity-transfer reaction uses $0^+ \rightarrow 0^-$ transition
as a probe to 0^- states in nuclei.
This reaction has advantages over other reactions used so far.
In order to confirm its effectiveness, we study the 0^- distribution in $^{12}¥rm B$
by using the $^{12}¥rm C(^{16}O,^{16}F)$ reaction at 250MeV/u.
The excitation energy of $^{12}¥rm B$ are deduced by means of the missing-mass spectroscopy by using the SHARAQ spectrometer˜¥cite{uesaka2008}. The outgoing $^{16}¥rm F$ are identified by using the invariant-mass of the decayed p + $^{15}¥rm O$ pairs, which are measured at the low-momentum side of the first dipole magnet and the focal plane of the SHARAQ spectrometer.

\bibitem{bai2010} C.˜L.˜Bai {\it et al.}, Phys. Rev. Lett. {\bf 105}, 072501 (2010).
\bibitem{bai2011} C.˜L.˜Bai {\it et al.}, Phys. Rev. C {¥bf 83}, 054316 (2011).
\bibitem{uesaka2008} T.˜Uesaka {\it et al.}, Nucl. Instrum. Meth. In Phys. Res. {\bf B266}, 4218 (2008).

Primary author: Dr DOZONO, Masanori (Riken Nishina Center)

Presenter: Dr DOZONO, Masanori (Riken Nishina Center)

Contribution ID: **8** Type: **not specified**

Extended Brueckner-Hartree-Fock theory and role of pions in nuclei

Thursday, 3 November 2011 09:00 (30 minutes)

We present an extended Brueckner-Hartree-Fock (EBHF) theory for understanding the nuclear structure as a consequence of bare interaction among the constituent particles in medium and heavy nuclear system. The nuclear force is characterized by the strong tensor force induced by pion exchange interaction. To handle the strong tensor force based on the single-particle picture, the Hartree-Fock variational model space is extended to include 2-particle 2-hole (2p-2h) states with all possible configurations, which are able to describe the high momentum components originating from pseudo-scalar nature of pion. We take a variational principle of the total energy in this extended model space. We obtain an equation for the single-particle states in the Fermi sea with inclusion of an effect of the pion exchange and short-ranged repulsive interaction. We elucidate the nature of the EBHF theory by comparing with the Brueckner-Hartree-Fock (BHF) theory and the Feshbach projection operator method. This framework has a similar structure with the EBH theory except for including the concept of the energy of the total system. The Feshbach projection operator method is entirely agree with our framework when the P-space projection corresponds to the Hartree-Fock states and the Q-space projection corresponds to the 2p-2h states.

Primary author: Dr OGAWA, Yoko (RCNP, Osaka University)

Co-authors: Prof. TOKI, Hiroshi (RCNP, Osaka University); Dr HU, Jinniu (RCNP, Osaka University)

Presenter: Dr OGAWA, Yoko (RCNP, Osaka University)

Contribution ID: **9** Type: **not specified**

Study of repulsive nature of optical potential for high energy 12C+12C elastic scattering

Wednesday, 2 November 2011 16:00 (30 minutes)

The elastic scattering can provide the important information for the property of nucleon-nucleon (NN) interaction. At recently high energy 12C+12C elastic scattering has been theoretically studied [1][2]. It is found that the nuclear potential is changed from attraction to repulsion with increasing the projectile’s energy, and then the shape of the angular distribution of elastic scattering is also changed. It includes three-body effect and contribution of tensor force. We will perform the experiment of 200-400MeV/A 12C+12C elastic scattering to measure the angular distribution of elastic scattering at Institute of Modern Physics (IMP) in Lanzhou. Through the comparison between the experimental data and the theoretical calculation, it clearly explains the repulsive nature of optical potential. The experimental determination of the transition energy through the precise measurement of elastic scattering provides quite important information about the TBF effect, which is one of the most important medium effects in high-density nuclear matter, and its energy dependence, in addition to the role of the tensor force which is one of the main origins of energy dependence of heavy-ion optical potential in this energy region.

Primary author: Dr ZHANG, Gaolong (BUAA)

Co-authors: Dr GUO, Chenlei (BUAA); Prof. TANIHATA, Isao (BUAA and Osaka University); Dr TERASHIMA, Satoru (BUAA); Dr WANG, Taofeng (BUAA)

Presenter: Dr ZHANG, Gaolong (BUAA)

Contribution ID: **10** Type: **not specified**

Tensor Effects in Covariant density functional theory

Wednesday, 2 November 2011 12:00 (30 minutes)

In this talk, the tensor effects within the pion, rho-tensor, and vector (omega, rho, coulomb) couplings will be discussed.

Primary author: Prof. LONG, Wen Hui (School of Nuclear Science and Technology, Lanzhou University, 730000 Lanzhou, China)

Presenter: Prof. LONG, Wen Hui (School of Nuclear Science and Technology, Lanzhou University, 730000 Lanzhou, China)

Contribution ID: **11** Type: **not specified**

Role of pions and tensor force in heavy quark hadrons

Wednesday, 2 November 2011 16:30 (30 minutes)

Primary author: Prof. HOSAKA, Atsushi

Presenter: Prof. HOSAKA, Atsushi

Contribution ID: **12** Type: **not specified**

Spin-orbit splitting in oxygen isotopes

Thursday, 3 November 2011 11:30 (30 minutes)

A level splitting between a spin doublet, spin-orbit splitting, can be a good measure of spin- orbit coupling in nuclei. Ando-Bando and Pieper-Pandharipande investigated microscopic origins of the 1p spin-orbit splitting in ˆ{16}O and showed that about half of the splitting originates from the NN spin-orbit interaction and the remaining part from the NN tensor and three- nucleon interactions. According to recent works by Otsuka et al., the tensor force is responsible for the change of proton (neutron) spin-orbit splitting depending on the neutron (proton) number.

We are planning to perform (p(pol), 2p) knockout experiments at RIBF to determine the proton spin-orbit splitting in unstable oxygen isotopes, ˆ{14,22–24}O. At RIBF energies, quasi-free knockout (p, pN) reactions can be a good spectroscopic tool to study single hole states. Experiments with spin polarized proton target make it possible to determine spin-parity of the single-hole state with less ambiguity. Thus the experiment will clearly exhibit how the proton spin-orbit split- ting changes from the values of about 6 MeV for ˆ{16}O when neutrons are added (removed) to d5/2 s1/2 and s1/2 orbits (from a p1/2 orbit). This neutron-number dependence of the spin-orbit splitting is expected to provide a unique opportunity to pin down the relevance of tensor and three-body interactions to nuclear structure clearly.

Prior to the RIBF experiment, we have carried out a ˆ{18}O(p(pol),2p) experiment at the ring cyclotron facility of RCNP, Osaka University and found that the proton spin-orbit splitting in ˆ{18}O is smaller by about 0.5 MeV than that in ˆ{16}O.

In the symposium, results from the ˆ{18}O(p(pol),2p) experiment at RCNP and the future plan of the ˆ{14,22–24}O(p(pol),2p) experiment at RIBF will be discussed.

Primary author: Dr UESAKA, Tomohiro (RIKEN Nishina Center)

Co-author: Mr KAWASE, Shoichiro (Center for Nuclear Study, University of Tokyo)

Presenter: Dr UESAKA, Tomohiro (RIKEN Nishina Center)

Contribution ID: **13** Type: **not specified**

Role of tensor force in light nuclei with tensor optimized shell model

Wednesday, 2 November 2011 11:00 (30 minutes)

In the bare nucleon-nucleon force, the tensor force coming from the pion exchange explains the large amount of the nuclear binding energies. In the nuclear wave function, the 2p2h excitation involving high momentum component is essential to describe the strong tensor correlation. In this study, we investigate the role of the tensor force in the light nuclei.

We employ a shell model type prescription, in which the 2p2h configurations are fully optimized into the high momentum states. We call this method as "tensor-optimized shell model" (TOSM). We treat the short-range repulsion using the unitary correlation operator method (UCOM). Using "TOSM+UCOM" as the basis states, we describe the nucleus from bare nucleon-nucleon interaction [1].
The TOSM also becomes the foundation of the tensor-optimized few body model (TOFM) by Horii et al. and the extended Brueckner mean field theory by Ogawa et al.

1. We show the results of neutron-rich He and Li isotopes using the Argonne interaction [2]. In 4He ,the major 2p2h state is the proton-neutron pair excitation induced by the tensor force. This specific 2p2h excitation causes the Pauli-blocking effect in the excited states of 5He to 8He, which generates the LS splitting energies in those nuclei.
2. We discuss the origin of the neutron halo in 11Li [3]. The halo structure in 11Li indicates a large s-wave component of neutrons in spite of the magic number N=8. We solved this N=8 shell problem by treating the tensor correlation with the help of TOSM. Based on the three-body model with the 9Li core described in TOSM, the Pauli-blocking from the tensor correlation produces the energy loss in the p-shell closed state of 11Li. As a result, the magic number was naturally broken in 11Li and the halo structure is explained.

[1] T. Myo, H. Toki, K. Ikeda, Prog. Theor. Phys. 121 (2009) 511.
[2] T. Myo, A. Umeya, H. Toki, K. Ikeda, Phys. Rev. C84 (2011) 034315.
[3] T. Myo, K. Kato, H. Toki and K. Ikeda, Phys. Rev. C76 (2007) 024305.

Primary author: Dr MYO, Takayuki (Osaka Institute of Technology)

Co-authors: Dr UMEYA, Atsushi (Nippon Institute of Technology); Prof. TOKI, Hiroshi (RCNP); Prof. IKEDA, Kiyomi (RIKEN)

Presenter: Dr MYO, Takayuki (Osaka Institute of Technology)

Contribution ID: **14** Type: **not specified**

Extended Brueckner Hartree-Fock theory for nuclear matter with realistic nucleon-nucleon interaction

Thursday, 3 November 2011 09:30 (30 minutes)

We study the properties of nuclear matter in the extended Brueckner Hartree-Fock theory with a realistic nucleon-nucleon (NN) interaction. The nuclear wave function is composed of traditional Hartree-Fock states and 2-particle-2-hole (2p-2h) states. The two important characters of the realistic NN interaction, strong tensor force and short range repulsion of the central force can be properly treated by including the 2p-2h states. The content of the 2p-2h states and the wave function of the single particle states are determined by the variational principle for the total energy. We can then extract an effective NN interaction from the equation of motion for the single particle state. This effective interaction has a similar structure to that of the G-matrix interaction in the Brueckner-Hartree-Fock theory, and the above two important characters are properly taken into account. We call our new theoretical framework as an extended Brueckner-Hartree-Fock (EBHF) theory.

Using our new framework, we work out the equation of state of the symmetric nuclear matter with the Bonn potential as a realistic NN interaction. In low density region, the binding energies of the nuclear matter are very similar to those given by the Brueckner-Hartree-Fock theory. As the density increases, more repulsion is obtained due to the 2p-2h correlation in the kinetic energy. It turns out that this additional repulsive energy can improve the saturation properties of nuclear matter significantly, which has never been achieved previously. Now the saturation properties are nicely reproduced consistently with the empirical data in relativistic framework. The neutron matter is also calculated with different Bonn potentials. We discuss the role of the tensor force in those nuclear matter properties.

Primary author: Dr HU, Jinniu (RCNP, Osaka University)

Co-authors: Prof. TOKI, Hiroshi (RCNP, Osaka University); Prof. SHEN, Hong (Department of Physics, Nankai University); Dr OGAWA, Yoko (RCNP, Osaka University)

Presenter: Dr HU, Jinniu (RCNP, Osaka University)

Contribution ID: **15** Type: **not specified**

'Search for direct evidence of tensor interaction in nuclei'

Thursday, 3 November 2011 16:30 (30 minutes)

Primary author: Dr TERASHIMA, Satoru

Presenter: Dr TERASHIMA, Satoru

Contribution ID: **16** Type: **not specified**

Selected baryon properties in covariant chiral perturbation theory

Thursday, 3 November 2011 15:00 (30 minutes)

Primary author: Dr GENG, Lisheng

Presenter: Dr GENG, Lisheng

Contribution ID: **17** Type: **not specified**

Magnetic Moment in Covariant Density Functional Theory

Wednesday, 2 November 2011 17:30 (30 minutes)

Primary author: Prof. MENG, Jie

Presenter: Prof. MENG, Jie

Contribution ID: **18** Type: **not specified**

Coexistence of cluster and mean-field dynamics and duality of many-nucleon wave function

Wednesday, 2 November 2011 09:00 (30 minutes)

Primary author: Prof. HORIUCHI, Hisashi

Presenter: Prof. HORIUCHI, Hisashi

Contribution ID: **20** Type: **not specified**

Proton-neutron spin correlation in ground states studied by measuring isoscalar and isovector M1 excitations in N=Z nuclei

Thursday, 3 November 2011 14:30 (30 minutes)

Primary author: Prof. TAMII, Atsushi

Presenter: Prof. TAMII, Atsushi

Contribution ID: **21** Type: **not specified**

Microscopic Model for Dilute Alpha-Gas State

Wednesday, 2 November 2011 15:00 (30 minutes)

Primary author: Prof. TOHSAKI-SUZUKI, Akihiro

Presenter: Prof. TOHSAKI-SUZUKI, Akihiro

Contribution ID: **22** Type: **not specified**

Structure of Lambda hypernuclei and Lambda-N tensor force

Wednesday, 2 November 2011 09:30 (30 minutes)

Primary author: Prof. TAMURA, Hirokazu

Presenter: Prof. TAMURA, Hirokazu

Contribution ID: **25** Type: **not specified**

Self-consistent study of spin-isospin resonances and its application in astrophysics

Thursday, 3 November 2011 11:00 (30 minutes)

Primary author: Dr LIANG, Haozhao

Presenter: Dr LIANG, Haozhao

Contribution ID: **26** Type: **not specified**

Tensor correlations in light nuclei

Wednesday, 2 November 2011 11:30 (30 minutes)

Tensor correlations play an important role in a nuclear system. A realistic interaction, which reproduces the nucleon-nucleon scattering, implies short-range repulsion and strong tensor components. In this contribution, we investigate the structure of the tensor correlations in light nuclei. We obtain highly correlated many-body states with an explicitly correlated basis which enables us to get a precise solution of a many-body Schroedinger equation for the realistic interaction. The energy levels of 4He below 26 MeV are reproduced very well without any model assumption. We show two-body density distributions in different spin-isospin channels for two- to four-nucleon systems and find universal behaviors at short distances and high momenta. The effect of three-body correlations due to the tensor force on the two-body densities is discussed.

Primary author: Dr HORIUCHI, Wataru (RIKEN)

Co-authors: Prof. FELDMEIER, Hans (GSI); Dr NEFF, Thomas (GSI); Prof. SUZUKI, Yasuyuki (Niigata Univ., RIKEN)

Presenter: Dr HORIUCHI, Wataru (RIKEN)

Contribution ID: **30** Type: **not specified**

Neutron Halo in Deformed Nuclei

Wednesday, 2 November 2011 14:30 (30 minutes)

Primary author: Dr LI, Lulu

Presenter: Dr LI, Lulu

Contribution ID: **31** Type: **not specified**

Rho-rho-N and rho-rho-Delta in the fixed center approach of Faddeev equations

Thursday, 3 November 2011 17:00 (30 minutes)

Primary author: Prof. SUN, Baoxi

Presenter: Prof. SUN, Baoxi

Contribution ID: **32** Type: **not specified**

Experimental nuclear physics groups in China

Tuesday, 1 November 2011 14:00 (25 minutes)

Presenter: Prof. YE, Yanlin

Contribution ID: **33** Type: **not specified**

Theoretical nuclear physics groups in China

Tuesday, 1 November 2011 14:25 (25 minutes)

Presenter: Prof. ZHOU, Shangui

Contribution ID: **34** Type: **not specified**

Lanzhou facility and future perspective

Tuesday, 1 November 2011 14:50 (25 minutes)

Presenter: Prof. XU, Hushan

Contribution ID: **35** Type: **not specified**

CIAE facility and future perspective

Tuesday, 1 November 2011 15:15 (25 minutes)

Presenter: Prof. LIU, Weiping

Contribution ID: **36** Type: **not specified**

Nuclear Physics in North America

Tuesday, 1 November 2011 16:00 (25 minutes)

Presenter: Prof. SHERRILL, Bradley

Contribution ID: **37** Type: **not specified**

Nuclear Physics in Europe

Tuesday, 1 November 2011 16:25 (25 minutes)

Presenter: Prof. GALES, Sydney

Contribution ID: **38** Type: **not specified**

Nuclear Science in GSI and Germany

Tuesday, 1 November 2011 16:50 (25 minutes)

Presenter: Prof. GEISSEL, Hans

Contribution ID: **39** Type: **not specified**

Nuclear Science in Japan

Tuesday, 1 November 2011 17:15 (25 minutes)

Presenter: Prof. KISHIMOTO, Tadafumi

Contribution ID: **40** Type: **not specified**

Roundup discussions

Tuesday, 1 November 2011 17:40 (40 minutes)

Presenter: Prof. TANIHATA, Isao