

**RCNP International Symposium on
High-resolution Spectroscopy and Tensor Interactions (HST15)
First Circular (July 27th, 2015)**

An international symposium on "High-resolution Spectroscopy and Tensor interactions (HST15)" will be held at Osaka University Nakanoshima Center located in the center of Osaka City, Japan, from November 16th to 19th, 2015. The symposium is hosted by the Research Center for Nuclear Physics (RCNP), Osaka University.

High-resolution spectroscopy of nuclear excited states and the nuclear spin-isospin responses is one of the fundamental research subjects in nuclear physics. The WS beam line at the RCNP Ring Cyclotron Facility, which is dedicated for the high-resolution spectroscopy together with the Grand Raiden spectrometer, has been providing important and distinctive data with unprecedented energy resolution since its completion in 2000. Observation of the fine structures of giant resonances, high-resolution measurement of the electric dipole response in heavy nuclei, determination of the neutron skin thickness and the nuclear equation of state, observation of spin-M1 strengths with high energy-resolution, and precise determination of the transition strengths, excitation energies, and single particle occupations are some of the highlights of the recent experimental works that provide new insights into the nuclear physics and the nuclear astrophysics.

Another important recent result from the Grand Raiden spectrometer is the possible signature of the effect of tensor interactions in the ground state of ^{16}O via the observation of high-momentum nucleons. Although it had been known that the tensor interactions between nucleons is essential for binding nuclei, it was only recently that the effects of tensor interactions could be isolated experimentally, i.e. by observation of systematic shifts of single-particle orbitals and of high-momentum components of nucleons in nuclei. In addition, theoretical methods to include explicitly the tensor interactions have been developed at RCNP. It is recognized now that such explicit inclusion is indispensable for a better understanding of nuclear structures. More detailed experimental as well as theoretical studies are under progress at RCNP.

In conjunction with the recent exciting progresses on the occasion of the 15th anniversary of the WS beam line, we would like to hold a symposium for discussing the topics on the experimental and theoretical studies on nuclear excited states with high resolution spectroscopy and on the tensor

interactions to pursue further advances in these fields. The symposium also aims at celebrating the retirement in the next March of Professor Y. Fujita, who has presented outstanding experimental data using the combination of the WS beam line and the Grand Raiden spectrometer.

Updates and latest news are available at the symposium web site:

<http://www.rcnp.osaka-u.ac.jp/Divisions/np1-a/conf/hst15/>

In addition to the speakers listed below, we also welcome contributions to the symposium in the form of oral presentation on the topic(s) listed below. Non-contributing participants are also welcome. Online registration and abstract submission can be done via the above symposium web site.

We look forward to seeing you in Osaka.

Topics To Be Discussed

- Fine structures of giant resonances
- Gamow-Teller, electric dipole and other spin-isospin responses
- Excitations of mirror states and isospin symmetry
- Measurements of nuclear level densities
- Nuclear astrophysics with high-resolution spectroscopy
- Double beta-decay matrix elements and double charge-exchange reactions
- Nuclear theories with explicit inclusion of tensor interactions
- Modification of single-particle orbitals by the Fock term of tensor interactions
- High-momentum components of nucleons and correlations in nuclei
- Ab-initio approach to the structure of nuclei
- Alpha clustering in nuclei
- Other related topics

Speakers (* indicates "to be confirmed")

- Joseph Carlson* (LANL)
- Dieter Frekers (Munster)
- Yoshitaka Fujita (RCNP)
- Joachim Görres (U Notre Dame)
- Or Hen (U Tel Aviv)
- Takahiro Kawabata (U Kyoto)

- Benjamin Kay (ANL)
- Javier Menendez (U Tokyo)
- Kenjiro Miki (NSCL/MSU)
- Takayuki Myo (OIT)
- Peter von Neumann-Cosel (TU Darmstadt)
- Thomas Neff (GSI)
- Hooi Jin Ong (RCNP)
- Takaharu Otsuka* (U Tokyo)
- Robert Roth* (TU Darmstadt)
- Berta Rubio (Valencia)
- Hiroyuki Sagawa (U Aizu/RNC)
- F.D. Smit (iThemba LABS)
- Toshimi Suda* (U Tohoku)
- Atsushi Tamii (RCNP)
- Tomohiro Uesaka (RNC)
- Tomotsugu Wakasa* (U Kyushu)
- Remco G.T. Zegers (NSCL/MSU)
- etc.

International Advisory Committee (* indicates “to be confirmed”)

- Georg P.A. Berg (U Notre Dame)
- Hiroyasu Ejiri (RCNP)
- Hans Feldmeier (GSI)
- Ikuko Hamamoto* (Lund/RNC)
- Muhsin Harakeh (KVI)
- Hisashi Horiuchi (RCNP)
- Takashi Nakano (RCNP)
- Peter von Neumann-Cosel (TU Darmstadt)
- Hideyuki Sakai (RNC)
- John Schiffer (ANL)

Local Organizing Committee

- Isao Tanihata (RCNP/U Beihang, Co-Chair)
- Atsushi Tamii (RCNP, Co-Chair)
- Hidetoshi Akimune (U Konan)
- Nori Aoi (RCNP)
- Eiji Ideguchi (RCNP)
- Takahiro Kawabata (U Kyoto)
- Takayuki Myo (OIT)
- Shumpei Noji (RCNP, Scientific Secretary)
- Hooi Jin Ong (RCNP, Scientific Secretary)
- Hiroshi Toki (RCNP)

Symposium Site

The symposium will be held at Osaka University Nakanoshima Center (ONC) located on Nakanoshima Island, a beautiful river island in the center of Osaka City with a rich concentration of administrative, commercial and cultural facilities. An access map to the symposium site is found at

<http://www.onc.osaka-u.ac.jp/others/map/index.php>

For information on Nakanoshima Island, please see for example

<http://www.osaka-info.jp/en/areas/nakanoshima.html>

Financial Support

A limited amount of financial support will be provided preferentially to students and researchers at their early-stage career to encourage their participations in the HST15 symposium. We expect to offer limited support to fully or partially cover domestic travel and local expenses based on availability of funds. If you would like to apply for the financial support, please indicate it during the online registration.

Registration Fee & Banquet Fee

Each participant is requested to pay a registration fee of 4,000 JPY at the on-site registration desk. Student participants without any financial support from the symposium organizers are exempt from the registration fee. All the participants who attend the symposium banquet to be held on November 18th is requested to pay the banquet fee of 6,000 JPY, in addition to the aforementioned registration

fee, at the registration desk. These fees can be paid only in cash at the registration desk; No checks or credit cards will be accepted.

Important dates

- First Circular July 27th, 2015
- Registration & abstract submission open July 27th, 2015
- Deadline for abstract submission August 31st, 2015
- Notification of acceptance of contributed talks (#) September 15th, 2015
- Final Circular October 15th, 2015
- Symposium November 16-19th, 2015

(#) We will issue early notifications for travel approval and/or VISA application purposes upon receiving your abstract accompanied with explicit request(s).

Host and Cosponsors

This symposium is hosted by RCNP, Osaka University.

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Correspondence

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