Workshop on

**Progress on J-PARC hadron physics in 2014**

* November 30 · December 2, 2014
* 2F Conference room (Nov. 30, Dec. 1) and 1F Conference room (Dec. 2),
  Ibaraki Quantum Beam Research Center (IQBRC)

**Program**

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<th>November 30</th>
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<tbody>
<tr>
<td>9:30 – 10:00 (30)</td>
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<td>10:00 – 10:10 (10)</td>
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<td>10:10 – 10:20 (10)</td>
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*** Session 1 “Kaonic nuclei (1)” ***

Chair: Kenichi Imai (JAEA)

10:20 – 10:55 (30+5) | **Tomofumi Nagae (Kyoto University)** |
<table>
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<tr>
<td><em>Experiments of strange nuclear physics at J-PARC</em></td>
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<td>10:55 – 11:20 (20+5)</td>
<td>Tadashi Hashimoto (RIKEN)</td>
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<td><em>Latest results of a kaonic-nucleus search in J-PARC E15</em></td>
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<td>11:20 – 11:40 (15+5)</td>
<td>Yudai Ichikawa (Kyoto University/JAEA)</td>
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<td><em>Experimental search for the kaonic nuclei using the d(π⁺, K⁺) reaction</em></td>
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11:40 – 13:00 (80) | Lunch |

*** Session 2 “Kaonic nuclei (2)” ***

Chair: Toshio Motoba
  (Osaka Electro-Comm. University)

13:00 – 13:25 (20+5) | Akinobu Dote (KEK) |
<table>
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<tr>
<td><em>Theoretical study of a prototype system of kaonic nuclei “Kpp”</em></td>
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<td>13:25 – 13:50 (20+5)</td>
<td>Vojtech Krejcirik (RIKEN)</td>
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<td><em>Effective model for K^̅N interactions including the L=1 partial wave</em></td>
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13:50 – 14:15 (20+5)  Takumi Muto (Chiba Institute of Technology)
Possible coexistence of kaon condensation and hyperons in multi-strangeness systems

14:15 – 14:30 (15)  Break

*** Session 3 “Hypernuclei (1)”  Chair: Tetsuo Hatsuda (RIKEN)

14:30 – 15:05 (30+5)  Shoji Shinmura (Gifu University)
Some Theoretical Problems in Strangeness Nuclear Physics

15:05 – 15:30 (20+5)  Hirokazu Tamura (Tohoku University)
Gamma-ray spectroscopy of hypernuclei —E13 and beyond—

15:30 – 15:55 (20+5)  Choki Nakamoto (Suzuka National College of Technology)
Quark-Pauli effect in the three-baryon systems consisted of baryon-octet

15:55 – 16:20 (20+5)  Kazuma Nakazawa (Gifu University)
A deeply bound $\Xi^-$-$^{14}$N system detected in nuclear emulsion

16:20 – 16:35 (15)  Break

*** Session 4 “Hypernuclei (2)”  Chair: Hirokazu Tamura (Tohoku University)

16:35 – 17:00 (20+5)  Junya Yoshida (Gifu University)
Nuclear emulsion scanning for double strangeness nuclei search

17:00 – 17:10 (10+0)  Aye Moh Moh Theint (Gifu University)
Study of alpha decays obtained by Overall Scanning in Nuclear Emulsion

17:10 – 17:20 (10+0)  Myint Kyaw Soe (Gifu University)
Analysis of single-$\Lambda$ hypernuclei events in nuclear emulsion detected with overall-scanning method

17:20 – 17:40 (10+10)  Shinji Kinbara (Gifu University)
PID method for double strangeness in nuclear emulsion

17:40 – 18:05 (20+5)  Hiroyuki Ekawa (Kyoto University/JAEA)
Experimental study of double hypernuclei with hybrid emulsion method at J-PARC
Program

= December 1 =

*** Session 5 “High energy hadron, nucleon structure (1)” Chair: Koichi Saito (Tokyo University of Science)
9:00 – 9:35 (30+5) Hyun-Chul Kim (Inha University)
The quark structure of the pion
9:35 – 9:55 (15+5) Hyeondong Son (Inha University)
$K \to \pi$ semileptonic transition form factors and the transverse spin density
9:55 – 10:20 (20+5) Masaharu Sato (RIKEN)
Measurement of the proton Zemach radius from the ground-state hyperfine splitting energy of muonic hydrogen

10:20 – 10:35 (15) Break

*** Session 6 “High energy hadron, nucleon structure (2)” Chair: Shin’ya Sawada (KEK)
10:35 – 11:10 (30+5) Kazuhiro Tanaka (Juntendo University)
Inclusive and exclusive Drell-Yan at J-PARC
11:10 – 11:45 (30+5) Takahiro Sawada (Institute of Physics, Academia Sinica)
High energy hadron experiment at J-PARC
11:45 – 12:10 (20+5) Itaru Nakagawa (RIKEN)
Latest Study of Proton Spin Structure and Future

12:10 – 13:20 (70) Lunch

*** Session 7 “Neutron star” Chair: Toshiki Maruyama (JAEA)
13:20 – 13:40 (15+5) Tetsuya Katayama (Tokyo University of Science)
Hyperon-mixed Neutron-star matter in Dirac-Brueckner-Hartree-Fock approach
13:40 – 14:05 (20+5) Kohsuke Tsubakihara (Osaka Electro-Comm. University)
Effects of $\Sigma$ and $\Xi$ isovector potentials to neutron star EOS
14:05 – 14:30 (20+5) Yasuo Yamamoto (RIKEN)
Hyperon mixing in neutron-star matter and universal many-body repulsion
14:30 – 14:45 (15) Break

*** Session 8 “Chiral symmetry, \( \Xi \) resonance” Chair: Osamu Morimatsu (KEK)

14:45 – 15:20 (30+5) Su Houn Lee (Yonsei University)
Meson in matter

15:20 – 15:45 (20+5) Gergely Fejos (RIKEN)
Chiral symmetry restoration with functional renormalization group methods

15:45 – 16:20 (30+5) Yongseok Oh (Kyungpook National University)
Theoretical studies on \( \Xi \) production

16:20 – 16:45 (20+5) Kenichi Imai (JAEA)
What can we learn about \( \Xi \) resonances at \( K1.8 \)

16:45 – 17:00 (15) Break

*** Session 9 “Charm, heavy quark physics (1)” Chair: Su Houn Lee (Yonsei University)

17:00 – 17:25 (20+5) Shigehiro Yasui (Tokyo Institute of Technology)
Strong decays of excited heavy baryons

17:25 – 17:50 (20+5) Shunsuke Ohkoda (Tokyo Institute of Technology)
Spin partners of heavy meson molecules

17:50 – 18:10 (15+5) Sachiko Fukino (Tokyo Institute of Technology)
Short range part of \( YcN \) interactions in the Quark Cluster Model

18:10 – 18:20 (10) Break

18:20 – 20:20 (120) Party at KOURYU plaza (IQBRC 2F)
Program

------------- December 2 ---------------

*** Session 10 "Hadron resonances (1)"
Chair: Hyun-Chul Kim (Inha University)

9:00 – 9:35 (30+5) Satoshi Nakamura (Osaka University)
Neutrino interactions in the resonance region
9:35 – 10:00 (20+5) Hiroyuki Kamano (RCNP, Osaka University)
N* and Y* physics within a dynamical coupled-channels approach
10:00 – 10:25 (20+5) Xiaohai Liu (Tokyo Institute of Technology)
Influence of threshold effect induced by charmed meson rescattering

10:25 – 10:40 (15) Break

*** Session 11 "Hadron resonances (2)"
Chair: Toru Sato (Osaka University)

10:40 – 11:05 (20+5) Johann Zmeskal (Stefan Meyer Institute)
Kaonic Atoms - from DAFNE to J-PARC
11:05 – 11:30 (20+5) Toshimitsu Yamazaki (University of Tokyo)
Toward double kaonic nuclei KKpp
11:30 – 11:50 (15+5) Ngo Xiem (Gifu University)
Resonances in meson-meson interaction by one-meson exchange model
11:50 – 12:10 (15+5) Aaron Park (Yonsei University)
Variational Method for X(3872)

12:10 – 13:10 (60) Lunch

*** Session 12 "Charm, heavy quark physics (2)"
Chair: Makoto Oka
(Tokyo Institute of Technology)

13:10 – 13:45 (30+5) Hiroyuki Noumi (RCNP, Osaka University)
Experiments of charmed baryons at J-PARC
13:45 – 14:20 (30+5) Atsushi Hosaka (RCNP, Osaka University)
Productions and decays of charmed baryons
14:20 – 14:40 (15+5)  Seijiro Nishi (Tokyo Institute of Technology)  
Ω_{bc} energy spectrum of the Y-string three-body potential

14:40 – 15:00 (15+5)  Kadir Utku Can (Tokyo Institute of Technology)  
A lattice calculation of charmed baryon electromagnetic form factors

*** Session 13 “Concluding remarks”  
Chair: Shunzo Kumano (KEK)

15:00 – 15:15 (15)  Makoto Oka (Tokyo Institute of Technology)  
Concluding remarks

15:15 – 15:25 (10)  Adjourn

* Optional tour  
15:25 – 16:55 (90)  J-PARC tour