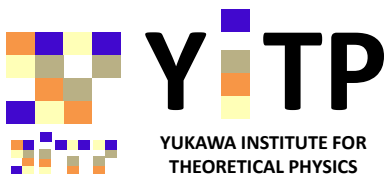


YIPQS long-term workshop
**“Mean-field and Cluster Dynamics
in Nuclear Systems 2022 (MCD2022)”**

9 May – 17 June, 2022

Onsite venue	Panasonic Hall at Yukawa Institute for Theoretical Physics, Kyoto University Access: https://www.yukawa.kyoto-u.ac.jp/en-GB/contents/guide/map (indicated as “Yukawa Hall”)
Online venue	Zoom See another PDF file or ask LOCs for Zoom URL



Yukawa Institute for Theoretical Physics, Kyoto University
Kitashirakawa Oiwakecho, Sakyo-ku, Kyoto 606-8502 Japan
TEL: +81-75-753-7000 | mcd2022@yukawa.kyoto-u.ac.jp |
www2.yukawa.kyoto-u.ac.jp/~mcd2022/

May 9 (Monday)

Time: JST = UTC+9

Opening address

09:00—09:10
(10 min.)

Hitoshi Nakada
(Chiba, Co-chair),
Kazuyuki Ogata
(Kyushu/RCNP)

Opening address by the LOCs

Invited seminar

Chair: Yoshiko Kanada-En'yo (Kyoto)

Online

09:10—10:10
(60 min.)

Kristina D. Launey
(Louisiana State)

Invited presentation

“Clustering and alpha-capture reactions from the ab initio symmetry-adapted no-core shell model”

Break

Discussion session

Led by Yoshiko Kanada-En'yo (Kyoto)

10:40—11:40
(60 min.)

Theme: “alpha cluster”

- How to measure cluster (experimentally and theoretically)
- Roles of the nuclear force in clustering

May 10 (Tuesday)

Time: JST = UTC+9

Discussion session

Led by Kouichi Hagino (Kyoto)

08:30—10:00 **Theme: “deuteron correlations”**
(90 min.)

Break

Talks

Chair: Yoshiko Kanada-En'yo (Kyoto)

10:30—11:05 **Wataru Horiuchi** “Describing localized nucleons near nuclear
(25 + 10 min.) (Osaka Metropolitan) surface”

11:05—11:40 **Takashi Abe** “Alpha-cluster structure from first principles”
(25 + 10 min.) (RIKEN)

Online 11:40—12:00 **Takaharu Otsuka** “Emerging of alpha clustering due to nuclear
(10 + 10 min.) (Tokyo/RIKEN) forces”

12:00—12:35 **Naoyuki Itagaki** “Effect of non-central interactions for the cluster-
(25 + 10 min.) (Osaka Metropolitan) shell competition”

Talks

Chair: Tokuro Fukui (RIKEN)

Online	13:00—13:35 (25 + 10 min.)	Qing Zhao (Huzhou)	“The alpha clustering within the microscopic cluster model in Be isotopes”
	13:35—14:10 (25 + 10 min.)	Moemi Matsumoto (Tohoku)	“Visualization of nuclear cluster correlations with microscopic wave functions”

Break

Student and young researcher session

Chair: Tokuro Fukui (RIKEN)

	14:40—15:10 (20 + 10 min.)	Yoshiki Chazono (RIKEN)	“Importance of the breakup state of deuteron in the deuteron knockout reaction”
	15:10—15:30 (15 + 5 min.)	Hibiki Nakada (RCNP)	“Description of deuteron-induced inclusive knockout reactions”
	15:30—15:50 (15 + 5 min.)	Tomoatsu Edagawa (RCNP)	“Effective polarization in proton-induced α knockout reactions”
	15:50—16:10 (15 + 5 min.)	Shoto Watanabe (Hokkaido)	“Nuclear data generation by machine learning”

May 12 (Thursday)

Time: JST = UTC+9

Invited seminars

Chair: Kazuyuki Ogata (Kyushu/RCNP)

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|--------------------------|---|--|
| 14:00—15:00
(60 min.) | Juzo Zenihiro
(Kyoto) | <i>Invited presentation</i>
“The ONOKORO project” |
| 15:00—16:00
(60 min.) | Didier Beaumel
(IJCLab Orsay) | <i>Invited presentation</i>
“Cluster structure of neutron-rich beryllium isotopes probed by quasifree scattering reactions in inverse kinematics” |

Break

Discussion session

Led by Kazuyuki Ogata (Kyushu/RCNP)

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|--------------------------|---|
| 16:20—17:20
(60 min.) | Theme: “Interplay between theory and experiment” <ul style="list-style-type: none">○ What should theorists do to understand clustering via knockout reaction data?○ What is the best observables to extract information on nuclear clustering in normal and inverse kinematics? |
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May 13 (Friday)

Time: JST = UTC+9

Discussion session

Led by Yoshiko Kanada-En'yo (Kyoto) and Kazuyuki Ogata (Kyushu/RCNP)

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|---------------------------|--|
| 13:00—15:00
(120 min.) | Theme: “Summary of the 1st week” |
|---------------------------|--|