

# PUBLICATION LIST

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## CONTENTS

1	PREPRINT	1
2	PEER-REVIEWED ARTICLES	1
3	CONFERENCE PROCEEDINGS	8
4	PH.D. THESIS	8
5	PRESENTATION	8
5.1	Seminar	8
5.2	International conference	9
5.3	Domestic conference	11
6	ORGANIZER	13
7	COMMITTEE	14
8	AWARD	14
9	FUND	14

## 1 PREPRINT

- [1] Kazuki Yoshida, Yoshiki Chazono and Kazuyuki Ogata, “Significance of the refraction effect on the  $p$ - $d$  elementary process in the  $(p, pd)$  reaction”, 2024, eprint: [arXiv:2404.04115](https://arxiv.org/abs/2404.04115)
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## 2 PEER-REVIEWED ARTICLES

- [1] Kazuyuki Ogata, Kazuki Yoshida and Yoshiki Chazono, “pikoe: A computer program for distorted-wave impulse approximation calculation for proton induced nucleon knockout reactions”, *Computer Physics Communications* **297**, 109058 (2024)
- [2] P. J. Li, D. Beaumel, J. Lee, M. Assié, S. Chen, S. Franchoo, J. Gibelin, F. Hammache, T. Harada, Y. Kanada-En'yo, Y. Kubota, S. Leblond, P. F. Liang, T. Lokotko, M. Lyu, F. M. Marqués, Y. Matsuda, K. Ogata, H. Otsu, E. Rindel, L. Stuhl, D. Suzuki, Y. Togano, T. Tomai, X. X. Xu, K. Yoshida, J. Zenihiro, N. L. Achouri, T. Aumann, H. Baba, G. Cardella, S. Ceruti, A. I. Stefanescu, A. Corsi, A. Frotscher, J. Gao, A. Gillibert, K. Inaba, T. Isobe, T. Kawabata, N. Kitamura, T. Kobayashi, Y. Kondo, A. Kurihara, H. N. Liu, H. Miki, T. Nakamura, A. Obertelli, N. A. Orr, V. Panin, M. Sasano, T. Shimada, Y. L. Sun, J. Tanaka, L. Trache, D. Tudor, T. Uesaka, H. Wang, H. Yamada, Z. H. Yang and M. Yasuda, “Validation of the  $^{10}\text{Be}$  ground-state molecular structure using  $^{10}\text{Be}(p, p\alpha)^6\text{He}$ ”

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- [3] Sang-In Shim, Kazuki Yoshida and Kazuyuki Ogata, “Systematic analysis of the nuclear absorption effect on the cross section of the knockout reaction”, *Journal of the Physical Society of Japan* **92**, 094201 (2023), [arXiv:2303.13841 \[nucl-th\]](#)
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- [5] H. Wang, M. Yasuda, Y. Kondo, T. Nakamura, J. A. Tostevin, K. Ogata, T. Otsuka, A. Poves, N. Shimizu, K. Yoshida, N. L. Achouri, H. Al Falou, L. Atar, T. Aumann, H. Baba, K. Boretzky, C. Caesar, D. Calvet, H. Chae, N. Chiga, A. Corsi, H. L. Crawford, F. Delaunay, A. Delbart, Q. Deshayes, Zs. Dombrádi, C. Douma, Z. Elekes, P. Fallon, I. Gašparić, J.-M. Gheller, J. Gibelin, A. Gillibert, M. N. Harakeh, A. Hirayama, C. R. Hoffman, M. Holl, A. Horvat, Á. Horváth, J. W. Hwang, T. Isobe, J. Kahlbow, N. Kalantar-Nayestanaki, S. Kawase, S. Kim, K. Kisamori, T. Kobayashi, D. Körper, S. Koyama, I. Kuti, V. Lapoux, S. Lindberg, F. M. Marqués, S. Masuoka, J. Mayer, K. Miki, T. Murakami, M. A. Najafi, K. Nakano, N. Nakatsuka, T. Nilsson, A. Obertelli, N. A. Orr, H. Otsu, T. Ozaki, V. Panin, S. Paschalis, A. Revel, D. Rossi, A. T. Saito, T. Saito, M. Sasano, H. Sato, Y. Satou, H. Scheit, F. Schindler, P. Schrock, M. Shikata, Y. Shimizu, H. Simon, D. Sohler, O. Sorlin, L. Stuhl, S. Takeuchi, M. Tanaka, M. Thoennessen, H. Törnqvist, Y. Togano, T. Tomai, J. Tscheuschner, J. Tsubota, T. Uesaka, Z. Yang and K. Yoneda, “Intruder configurations in  $^{29}\text{Ne}$  at the transition into the island of inversion: Detailed structure study of  $^{28}\text{Ne}$ ”, *Physics Letters B* **843**, 138038 (2023)
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### 3 CONFERENCE PROCEEDINGS

- [1] Kazuki Yoshida, “Bound state properties studied by the knockout reaction”, in [Few-body systems](#), Vol. 62 (2021), p. 28
- [2] Kazuyuki Ogata, Kosho Minomo, Michio Kohno, Takuma Matsumoto, Masanobu Yahiro, Yuma Kikuchi, Tokuro Fukui, Kazuki Yoshida and Kazuhito Mizuyama, “Microscopic effective reaction theory for direct nuclear reactions”, in [CNR\\*15 - 5th international workshop on compound-nuclear reactions and related topics](#), Vol. 122 (2016), p. 06003
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### 4 PH.D. THESIS

Kazuki Yoshida, “New insight into  $\alpha$  clustering from knockout reaction analysis”, [Osaka University, Ph.D. Thesis \(2018\)](#)

### 5 PRESENTATION

#### 5.1 SEMINAR

- [1] Kazuki Yoshida, “The  $\alpha$  knockout reaction: recent progress and future perspectives”, Research Center for Nuclear Physics, Osaka University, May 29, 2023.
- [2] Kazuki Yoshida, “ノックアウト反応で探るアルファクラスター構造”, Kyushu University 11, Oct. 2022
- [3] Kazuki Yoshida, “Alpha clustering and the cluster knockout reaction”, [Reaction seminar 2021, online, 22, July 2021](#)



- [4] Kazuki Yoshida, “ノックアウト反応で探る原子核構造 (Nuclear structures probed with the knockout reaction)”, Kyoto University, December 13th, 2019.
- [5] Kazuki Yoshida, “Shell and cluster structures of nuclei through knockout reactions”, Japan Atomic Energy Agency, February 28th, 2018.
- [6] Kazuki Yoshida, “ノックアウト反応で実証する原子核のアルファクラスター構造”, Osaka City University, October 19th, 2017.
- [7] Kazuki Yoshida, “ノックアウト反応で探る原子核の1粒子およびアルファクラスター構造”, Kyushu University, July 27th, 2017.

## 5.2 INTERNATIONAL CONFERENCE

- [1] Kazuki Yoshida, “Studies on nucleon and alpha knockout reaction theory”, **Reimei Workshop “Intersection of Nuclear Structure and Direct Reaction”**, Tokai Japan, February 28 - March 1, 2024.
- [2] **[invited]** Kazuki Yoshida, “Extending the reach of the knockout reaction as a probe for the single-nucleon, cluster, and correlation in nuclei”, **Advancing physics at next RIBF (ADRIB24)**, RIKEN Nishina Center, Wako, Japan, January 23-24, 2024
- [3] **[invited]** Kazuki Yoshida, “ $\alpha$  knockout reaction from light to heavy nuclei”, **The African Nuclear Physics Conference 2023 (ANPC2023)**, (online) Kruger Gate Hotel, South Africa, November 29 - December 4, 2023.
- [4] **[invited]** Kazuki Yoshida, “Alpha knockout reaction as a probe for alpha formation in the ground state”, **Workshop on Nuclear Cluster Physics (WNCP2023)**, Osaka University, November 27–29, 2023.
- [5] Kazuki Yoshida, “Current status and perspectives of nucleon and  $\alpha$  knockout reaction”, **Direct reactions and spectroscopy with hydrogen targets: past 10 years at the RIBF and future prospects**, York UK, July 31 - August 4, 2023.
- [6] Kazuki Yoshida, “Theoretical studies of cluster knockout reactions, referring also to relevant experimental activities in Japan”, **JSPS/NRF/NSFC A3 Foresight Program “Nuclear Physics in the 21st Century”**, Osaka International Convention Center, Osaka Japan, February 13-15, 2023.
- [7] **[invited]** Kazuki Yoshida, “Knockout reaction with exotic beams”, **The JPS-KPS Joint Symposium on Nuclear Physics with RI Beams, KPS 70th Anniversary and 2022 Fall Meeting**, Busan, Korea, October 19-21, 2022.
- [8] Kazuki Yoshida, “Knockout reaction mechanism and developments; What we can (not) do and what we need”, **Reimei workshop on “Unveiling nuclear shells and correlations in exotic nuclei through knockout reactions”**, TU Darmstadt Germany, October 9-11, 2022.
- [9] **[invited]** Kazuki Yoshida, “Recent progress and perspectives of the alpha clustering studied by the knockout reaction”, **The 15th Asia Pacific Physics Conference (APPC15)**, August 21-26, 2022 (online).
- [10] Kazuki Yoshida, “Knockout reaction as a probe for cluster formation”, **Cluster phenomena in knockout and astrophysical reactions**, Online, October 14-15, 2021.

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- [12] Kazuki Yoshida, “Asymmetry in the nucleon knockout reaction with polarized beam (oral/poster)”, **REIMEI workshop on universal features of quantum flows with spin, orbital, and tensor correlations**, baraki quantum beam research center, Tokai, Japan, Feb. 17 - 19, 2020.
- [13] [\[invited\]](#) Kazuki Yoshida, “Reaction probes for the alpha clustering”, **Universal physics in Many-Body Quantum Systems - From Atoms to Quarks**, ECT\*, Trento, Italy, October 7 - 11, 2019.
- [14] [\[invited\]](#) Kazuki Yoshida, “Theoretical studies on the knockout reaction for probing the alpha-cluster states”, **RIBF Week 2019 (RIBF Users Meeting)**, RIKEN Nishina Center, Wako, Japan, September 2-4, 2019.
- [15] Kazuki Yoshida, “Role of the spin-orbit potential in nuclear elastic scattering”, **JPEA/KEK joint mini workshop on Quantum phenomena in scatterings**, ASRC, JAEA, Japan, June 12, 2019.
- [16] [\[invited\]](#) Kazuki Yoshida, “Alpha particle formation probed with the knockout reaction”, **Tsukuba-CCS workshop on microscopic theories of nuclear structure and dynamics**, Center for Computational Science, University of Tsukuba, Japan, December 10-12, 2018.
- [17] [\[invited\]](#) Kazuki Yoshida, “Theoretical achievements and questions in the quenching problem”, **Fifth joint meeting of the nuclear physics divisions of the APS and the JPS**, Hilton Waikoloa Village, Hawaii island, United States, October 2018.
- [18] K. Yoshida, M. Gómez-Ramos, K. Ogata and A. M. Moro., “Benchmarking reaction theories for nucleon knockout reactions”, **The 10th International Workshop on DIRECT REACTIONS WITH EXOTIC BEAMS (DREB2018)**, Kunibiki Messe, Matsue, Japan, June 2018.
- [19] K. Yoshida, K. Ogata and Y. Kanada-En’yo, “Investigation on alpha clustering via knockout reaction (poster)”, **The 10th International Workshop on DIRECT REACTIONS WITH EXOTIC BEAMS (DREB2018)**, Kunibiki Messe, Matsue, Japan, June 2018.
- [20] Kazuki Yoshida, “Investigation on alpha cluster states via knockout reaction”, **Recent advances and challenges in the description of nuclear reactions at the limit of stability**, ECT\*, Trento, Italy, March 2018.
- [21] Kazuki Yoshida, “Investigating the alpha-cluster state via knockout reaction (poster)”, **RIBF users meeting 2016**, RIKEN RIBF, Wako, Japan, September 2016.
- [22] K. Yoshida, K. Minomo and K. Ogata, “Investigating the single-particle and the alpha-cluster state via knockout reaction (poster)”, **The 9th International Workshop on DIRECT REACTIONS WITH EXOTIC BEAMS (DREB2016)**, Saint Mary’s University, Halifax, Canada, July 2016.
- [23] K. Yoshida, K. Minomo and K. Ogata, “Investigation of alpha cluster states using alpha knockout reactions”, **2nd International Workshop & 12th RIBF Discussion on Neutron-Proton Correlations**, The University of Hong Kong, Hong Kong, July, 2015.

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- [26] K. Yoshida, T. Fukui, K. Minomo and K. Ogata, “Extracting the electric dipole breakup cross section of one-neutron halo nuclei from inclusive breakup observables (poster)”, **2nd Conference on Advances in Radioactive Isotope Science (ARIS2014)**, ITO International Research Center, Univ. of Tokyo, June, 2014.
- [27] K. Yoshida, T. Fukui, K. Minomo and K. Ogata, “Target mass number dependence of neutron stripping cross sections.” **JUSTIPEN-JUSEIPEN Workshop**, RIKEN Wako campus, Saitama, Japan, December, 2013.

### 5.3 DOMESTIC CONFERENCE

- [1] Kazuki Yoshida, “Knockout reaction as a probe for alpha cluster formation”, **第9回クラスター階層領域研究会**, 理化学研究所, 22,23 September, 2023.
- [2] Kazuki Yoshida, “アルファノックアウト反応のこれまでとこれから”, **九州大学 理論核物理研究会「現代核物理の広がりと展望」**, 九州大学伊都キャンパス, 19-21 July, 2023.
- [3] Kazuki Yoshida, “日本物理学会若手奨励賞受賞記念講演：アルファ粒子ノックアウト反応による核内アルファ粒子析出確率の研究”, **JPS 2023 Spring meeting**, online, 23rd March, 2023.
- [4] Kazuki Yoshida, “原子核反応と開放系としての原子核”, **第4回若手放談会：エキゾチック核物理の将来**, 理研神戸・融合連携イノベーション推進棟, March 15-17, 2023.
- [5] Kazuki Yoshida, “ノックアウト反応で探る原子核クラスター構造”, **ELPH研究会C033「ハドロン分光に迫る反応と構造の物理」**, 東北大学電子光理学研究センター, December 6-7, 2022.
- [6] Kazuki Yoshida, “アルファノックアウト反応の今後”, **RCNP研究会「原子核反応研究の最近の話題と展望」**, RCNP, Osaka university, July 8-9, 2022.
- [7] Kazuki Yoshida and Junki Tanaka, “アルファノックアウトを用いたアルファ換算幅の $^{212}\text{Po}/^{210}\text{Po}$ 比決定”, **JPS 2022 Annual meeting**, Okayama University (online), 15th March, 2022.
- [8] Kazuki Yoshida, “アルファノックアウト反応の理論研究”, **おのころプロジェクトキックオフミーティング**, 淡路夢舞台国際会議場, Nov.18-20, 2021.
- [9] Kazuki Yoshida and Junki Tanaka, “アルファ崩壊核からのノックアウト反応における残留核運動量分布の非対称性”, **JPS 2021 Fall meeting**, Kobe University (online), September, 2021.
- [10] Kazuki Yoshida, “アルファノックアウト反応断面積による核表面アルファ振幅の決定”, **JPS 2021 Annual meeting**, Tokyo University (online), March, 2021.

- [11] Kazuki Yoshida, “ノックアウト反応で探る原子核構造”, **RCNP 研究会「原子核における多様な共鳴現象とそれを探る反応機構」**, RCNP, Osaka University (online), Jan. 18-20, 2021.
- [12] Kazuki Yoshida and K. Ogata and M. Atkinson and W. H. Dickhoff, “Dispersive optical model による歪曲波を用いたノックアウト反応計算とその定量性”, **JPS 2020 Annual meeting**, Nagoya University (online), March, 2020.
- [13] Kazuki Yoshida and C. Qi., “ノックアウト反応で探るアルファ崩壊核でのアルファ粒子形成率”, **JPS 2019 Fall meeting**, Yamagata Univ., September, 2019.
- [14] Kazuki Yoshida, “アルファノックアウト反応断面積の定量的理解およびクラスター状態との対応関係”, **NITEP研究会「微視的理論でつなぐ散乱観測量と核構造」**, Osaka city university, March, 2019.
- [15] Kazuki Yoshida and Y. Chiba and M. Kimura and Y. Taniguchi and Y. Kanada-En'yo and K. Ogata., “AMD波動関数を用いたアルファノックアウト反応の分析”, **JPS 2019 Annual meeting**, Kyushu university, Fukuoka, March, 2019.
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- [17] Kazuki Yoshida and M. Gómez-Ramos and K. Ogata and A. M. Moro., “ノックアウト反応理論のベンチマークテスト”, **JPS 2018 Annual (73th) meeting**, Tokyo university of science, Chiba, March, 2018.
- [18] Kazuki Yoshida, “ノックアウト反応でみる原子核構造”, **大阪市大ワークショップ「原子核のダイナミクスの現状と展望 Highlights and Outlooks on Dynamics of Atomic Nuclei」**, Osaka city university, February, 2018.
- [19] Kazuki Yoshida and K. Ogata and Y. Kanada-En'yo., “アルファノックアウト反応の表面性”, **JPS 2017 Fall meeting**, Utsunomiya university, Tochigi, September, 2017.
- [20] Kazuki Yoshida and K. Minomo and K. Ogata, “核内2核子相互作用のスピ依存性と核子ノックアウト反応のスピ偏極量”, **JPS 2017 Fall meeting**, Utsunomiya university, Tochigi, September, 2017.
- [21] Kazuki Yoshida and K. Minomo and K. Ogata, “核子ノックアウト反応でみる媒質中での2核子散乱”, **基研研究会「核力に基づく核構造, 核反応物理の展開」**, Yukawa institute for theoretical physics, Kyoto, March, 2017.
- [22] Kazuki Yoshida and K. Minomo and K. Ogata, “核子ノックアウト反応でみる媒質中での2核子散乱のスピ依存性”, **JPS 2017 Annual (72th) meeting**, Osaka university, Osaka, March, 2017.
- [23] Kazuki Yoshida and Y. Kanada-En'yo and K. Ogata, “ノックアウト反応でみるアルファクラスター状態”, **クラスター・平均場の両側面からみる原子核構造の多様性とそのダイナミクス**, Osaka City Univ., Osaka, January, 2017.
- [24] Kazuki Yoshida and K. Minomo and K. Ogata, “重陽子による核子ノックアウト反応の記述”, **JPS 2016 Fall meeting**, Miyazaki university, Miyazaki, September, 2016.

- [25] Kazuki Yoshida and K. Minomo and K. Ogata, “アイコンナル波動関数を用いた歪曲波インパルス近似の妥当性”, **JPS 2016 Annual (71th) meeting**, Tohoku Gakuin university, Miyagi, March, 2016.
- [26] Kazuki Yoshida and K. Minomo and K. Ogata, “ $(p,p\alpha)$ 反応で探るアルファクラスター状態”, **JPS 2015 Fall meeting**, Osaka city university, Osaka, September, 2015.
- [27] Kazuki Yoshida and K. Minomo and K. Ogata, “逆運動学 $(p,pN)$ 反応における残留核運動量分布の非対称性”, **JPS 2015 Annual (70th) meeting**, Waseda university, Tokyo, March, 2015.
- [28] Kazuki Yoshida and T. Fukui and K. Minomo and K. Ogata, “中性子ハロー核の観測量からのE1分解断面積計算法”, **九大研究会「中性子過剰領域における弱束縛系の物理」**, Kyushu university, Fukuoka, March, 2015.
- [29] Kazuki Yoshida and T. Fukui and K. Minomo and K. Ogata, “観測量からのE1分解断面積計算法 (poster)”, **卓越スクール**, 白浜荘, March, 2014.
- [30] Kazuki Yoshida and T. Fukui and K. Minomo and K. Ogata, “核力による1中性子剥離断面積の標的核依存性”, **JPS 2014 Annual (69th) meeting**, Tokai university, Kanagawa, March, 2014.
- [31] Kazuki Yoshida and T. Fukui and K. Minomo and K. Ogata, “ハロー核の分解反応における核力とクーロン力の役割”, **JPS 2013 Fall meeting**, Kochi university, Kochi, September, 2013.
- [32] Kazuki Yoshida and T. Fukui and K. Minomo, and K. Ogata, “ハロー核の分解反応における核力とクーロン力の役割”, **RCNP/九大研究会 ハドロン物理と原子核物理のクロスオーバー**, Kyushu university, Fukuoka, September, 2013.
- [33] Kazuki Yoshida and T. Fukui and K. Minomo, and K. Ogata, “ハロー核の分解反応における核力とクーロン力の役割”, **YONUPA summer school 2013**, Hotel Tatsuki, Aichi, August, 2013.

## 6 ORGANIZER

- [1] Kazuki Yoshida, “Studies on nucleon and alpha knockout reaction theory”, **Reimei Workshop “Intersection of Nuclear Structure and Direct Reaction”**, Tokai Japan, February 28 - March 1, 2024.
- [2] “Direct reactions and spectroscopy with hydrogen targets: past 10 years at the RIBF and future prospects”, **York, United Kingdom**, July 31 - August 4, 2023.
- [3] “RCNP研究会「原子核反応研究の最近の話題と展望」”, **RCNP, Osaka university, Japan**, July 8-9, 2022.
- [4] “Cluster phenomena in knockout and astrophysical reactions”, **Online**, October 14-15, 2021.
- [5] “Reimei workshop on Universal Features of Quantum Flows with Spin, Orbital and Tensor Correlations”, **Ibaraki Quantum Beam Research Center, Tokai, Ibaraki, Japan**, February 17-19, 2020.
- [6] “The 50th Reimei workshop "Universal Physics in Many-Body Quantum Systems -From Atoms to Quarks-", **Ibaraki Quantum Beam Research Center, Tokai, Ibaraki, Japan**, December 12-14, 2018.

[7] “YONUPA summer school 2015”, [Hotel Tatsuki, Aichi, Japan, August, 2015.](#)

## 7 COMMITTEE

[1] (2023-) Research Center for Nuclear Physics, Beam-time Program Advisory Committee

## 8 AWARD

[1] 第17回(2023年)日本物理学会若手奨励賞理論核物理領域(第24回核理論新人論文賞) アルファ粒子ノックアウト反応による核内アルファ粒子析出確率の研究

[2] “ASRC (Advanced Science Research Center, JAEA) director general’s award 2019.” **For significant contributions to theoretical study on nuclear reaction for probing nuclear structures.** 24th March 2020.

[3] “First prize for a poster presentation (theory)”, **The 9th International Workshop on DIRECT REACTIONS WITH EXOTIC BEAMS (DREB2016), 15th July 2016.** Investigating the single-particle and the alpha-cluster state via knockout reaction

## 9 FUND

[1] 若手研究「散乱観測量を用いたアルファクラスター構造の直接的・網羅的研究」(20K14475), FY2020 – FY2024, 吉田数貴

[2] **Unveiling nuclear shells and correlations in exotic nuclei through knockout reactions**, REIMEI project (competitive fund in JAEA), FY2022 – present

[3] **Research on nuclear clustering by new reaction probes**, RCNP COREnet

[4] 核子ノックアウト反応の系統的分析で探る不安定核の独立粒子描像, Research Fellow of the Japan Society for the Promotion of Science (JSPS): DC1 2015-04-24 – 2018-03-31 Grant number: 15J01392