

Koichiro Takahashi

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Department of Physics and Astronomy

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Project and Publication:

1. Yibo Zhang, Suman Itani, Kamal Khanal, Emmanuel Okyere, Gavin Smith, Koichiro Takahashi, Jiadong Zang, “GPTArticleExtractor: An automated workflow for magnetic material database construction”, Journal of Magnetism and Magnetic Materials, 2024, 172001, ISSN 0304-8853, <https://doi.org/10.1016/j.jmmm.2024.172001> .
2. The on-going project;
“Nonlinear dynamics of skyrmion confined in one dimension”
Supervisor: Sergey Pershoguba, Jiadong Zang
Partially funded by Summer Undergraduate Research Fellowships (SURF)
Presented preliminary results at Undergraduate Research Conference (URC) at UNH
3. The on-going project; “Tight-binding Calculation of MnTe, Altermagnet”
Supervisor: Jiadong Zang

Research and Experience:

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| 05/2023-Present | Research Assistant in the Theoretical Condensed Matter Physics Group at UNH Supervisor: Jiadong Zang, Sergey Pershoguba |
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Research Interests:

Condensed Matter Theory, Quantum Field Theory, Topological Quantum Matter, Strongly Correlated Electrons System, Quantum Hall Effects, Superconductivity, Magnetism, Skyrmionics, Quantum Information, Machine Learning, Complexity, Information Theory, Non-Equilibrium Dynamics

Computational Skills:

Languages: Python, Mathematica

Independent Seminars:

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| 01/2024-04/2024 | UNH Graduate Theoretical Physics Seminar Spring 2024 Presentation, Title: “Dynamics of Magnetic Skyrmion” |
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| 01/2024-03/2024 | Group Theory and Algebraic Geometry Seminar with Michael Lathwood, PhD student at UNH Weekly Seminar of Group Theory and Algebraic Geometry |
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Education:

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| 08/2023-Present | Transfer Undergraduate Physics Student (4th-year), Class of 2025 Department of Physics, University of New Hampshire, USA GPA: 4.0 |
| 08/2022-05/2023 | Exchange Student in Physics at UNH Located in Durham, New Hampshire, USA Stayed for 2 semesters, GPA: 4.0 |
| 04/2021-08/2022 | BSc in Physics at Saitama University (SU) (Transferred to UNH) Located in Sakura-ku, Saitama, Japan Class of 2025, Earned 73 Credits GPA: 3.71 (Top of my class) |
| 04/2018-03/2021 | High School Diploma in General Course at Shinjuku High School Located in Shinjuku, Tokyo, Japan |

Scholarships:

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| 05/2024-08/2024 | Summer Undergraduate Research Fellowships (SURF) Received: \$4,000 For 10 weeks of summer research on campus at UNH |
| 05/2024 | Karsten Pohl Scholarship Received: \$4,660 From the College of Engineering & Physical Sciences at UNH “For academic excellence and for advancing the University’s goal of enhancing the educational experience through enrollment of a diverse student body” |
| 08/2023-Present | Transfer Excellence Scholarship Received: \$2,500 (per semester) × 4 semesters From the Admission Committee of UNH |
| 08/2022-05/2023 | Gyomu Super Japan Dream Foundation Scholarship Received: ¥1,200,000 (9 months) During study exchange at UNH |
| 10/2022-08/2023 | Exemption of Tuition Fee at Saitama University Applies for students who has outstanding academic performance |

04/2022-08/2023 Japan Student Services Organization (JASSO) Scholarship

Awards:

Dean's list in Highest Honors at UNH for outstanding academic performance
Received Semesters: 2022 Fall, 2023 Spring, 2023 Fall, 2024 Spring

Outstanding Grade Award from the Physics Department of Saitama University
Received Years: 2021, 2022; the award given to the top of my class

Extracurricular Activities:

08/2022-Present UNH Men's Volleyball Club; Position: Outside Hitter/Libero
Played in tournaments at Boston College, UMass Lowell etc.

Personal Information:

Date and Place of Birth: January 10, 2003; Tokyo, Japan
Citizenship: Japan
Language Skills: Japanese (Native), English (Fluent)