

Koichiro Takahashi

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Department of Physics and Astronomy

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Personal Information:

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

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:

01/2025-08?/2025	Technical Assistant in the Quantum Condensed Matter Theory Group at Saitama University Supervisor: Shintaro Hoshino
07/2024	2024 US Quantum Information Science Summer School (USQIS) At Oak Ridge National Laboratory (ORNL) July 14-26 Participating in hands-on quantum science and technology activities in a laboratory setting

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, AdS/CFT

Computational Skills:

Languages:	Python, Mathematica
Platforms:	macOS

Independent Seminars:

01/2024-04/2024	UNH Graduate Theoretical Physics Seminar Spring 2024 Presentation, Title: "Dynamics of Magnetic Skyrmion"
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

Education:

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:

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 of in Highest Honors at UNH for outstanding academic performance
Received Semesters: 2022 Fall, 2023 Spring, 2023 Fall, 2024 Spring

Outstanding Grades Award from the Physics Department of Saitama University
Received Years: 2021, 2022; the award given to 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.
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Leadership Experience:

08/2024	OISS Orientation Leader in 2024 Fall The orientation leader for new international students at UNH
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