

Jing WANG

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Education

Okayama University

Okayama, Japan

PHD STUDENT (CURRENTLY D3) [DIVISION OF INTERDISCIPLINARY SCIENCE]

October. 2021 - Present

- **Thesis Project:** Dark Matter Search With Coherent Atoms.

Okayama University

Okayama, Japan

MASTER OF SCIENCE [DIVISION OF MATHEMATICS AND PHYSICS]

October. 2019 - September. 2021

- **GPA:** 4.23/4.5
- **Courses:** Particle Physics, Cosmology, Atomic and Molecular Physics, Advanced Quantum Mechanics, Superconductivity.
- **Thesis Project:** Dark Matter Search With Atoms or Molecules.

Lanzhou University

Lanzhou, China

BACHELOR OF ENGINEERING [SCHOOL OF NUCLEAR ENGINEERING AND TECHNOLOGY]

September. 2015 - July. 2019

- **Courses:** Analytical Mechanics, Quantum Mechanics, Statistical Mechanics, Electrodynamics, Nuclear Physics, Electronics, Mathematical Methods of Physics, C Programming.
- **Thesis Project:** Size effect of nanoparticles on laser induced breakdown spectroscopy enhancement.

Skills & Interests

Languages English (Fluent), Chinese (Native), Japanese (Intermediate)

Lab Skills Laser Operation, 3D MOT generation, X-Ray Operation, Vacuum Techniques, Data analysis by Python and ROOT.

Interests Atomic, molecular, and optical physics, Cold atoms, Particle Physics, Cosmology

Academic Project

Dark Matter Search With Atoms or Molecules

Okayama University, Japan

CURRENT RESEARCH PROJECT

January. 2021 - Present

- My master's thesis project is about dark matter detection with coherent atomic/molecular transition, which is an interdisciplinary research involves particle physics and Atomic, molecular, and optical physics.
- Built up a simulation algorithm with Python to understand the dynamics of the atomic system.
- Dark matter signal rate estimation by perturbative calculation.
- Laser System development
- Cold atom target preparation with Cs 3D MOT
- Cesium forbidden transition measurement (**Current work**)

Lowest Excited State Study of Th^{229}

SPring-8, Japan

MEMBER

November. 2020 - November. 2020

- Thorium-229 (Th^{229}) has the lowest energy excited state thus could be utilized for an ultra-precise "nuclear clock". We are now working on the direct observation of this excited state using the strong synchrotron X-ray facility, SPring-8.
- Built up a set of X-ray experimental equipment for background study of this project. Mastered the entire process from design and construction to experimental data processing.

Nuclear Battery Development

Lanzhou University, China

MEMBER

March. 2015 - December. 2015

- Contributed to the calculation of energy conversion efficiency of composite dynamic radioisotope battery based on nanomaterials.

Presentation

FPUA workshop 2024

Okayama, Japan

POSTER PRESENTER FOR <DARK MATTER SEARCH WITH COHERENT ATOMS>

Mar. 2024

- Poster presentation at the FPUA 2024 workshop

CMB workshop 2023

Seoul, Korea

PRESENTER FOR <DARK MATTER SEARCH WITH COHERENT ATOMS>

Nov. 2023

- Presented research at the CMB 2023 workshop

Kashiwa Dark Matter Conference 2023

PRESENTER FOR <DARK MATTER SEARCH WITH COHERENT ATOMS>

Kashiwa, Japan

Dec. 2023

- Presented research at the Kashiwa Dark Matter Conference 2023

JPS 2024 Spring meeting

PRESENTER FOR <DARK MATTER SEARCH WITH COHERENT ATOMS>

Online

Mar. 2024

- Presented research at the JPS 2024 spring conference

JPS 2023 Autumn meeting

PRESENTER FOR <LASER INDUCED FLUORESCENCE SPECTROSCOPY OF THE Cs 8P-6P E2 TRANSITION>

Tohoku University, Japan

Sep. 2023

- Presented research at the JPS 2023 autumn conference

JPS 2022 Spring meeting

PRESENTER FOR <DARK MATTER SEARCH WITH COHERENT ATOMS>

Online

Mar. 2022

- Presented research at the JPS 2021 spring conference

Extracurricular Activity

Sorbonne University Internship Grant

EXCHANGE STUDENT

Sorbonne University, France

September. 2022 - December. 2022

- I am currently an exchange student in Sorbonne University, I joined the XeLab Project and work with Prof. Luca Scotto Lavina. XeLab is a Xenon TPC which will be constructed at the LPNHE and will be used to study the scintillation signal and also the background noise, such research can provide information for XENONnT experiment.

Sakura Science Program

MEMBER

Okayama University, Japan

November. 2017 - November. 2017

- Sakura science program is an exchange program held by Japan Science and Technology Agency. This program invites outstanding young students on short-term visits to Japan. I was lucky to be selected and visited Okayama University, this experience in Japan broadened my horizons and motivated me to study in Japan.

Summer School of CAS (Chinese Academy of Sciences)

SUMMER SCHOOL STUDENTS

University of CAS, China

May. 2017 - June. 2017

- Learned the basic knowledge of particle physics and ROOT; visited the BEPC and BESIII in the Institute of high energy physics, Chinese Academy of Sciences.
- Contributed to the research of the double charm baryon Ξ_{cc}^{++} . Estimated branching fractions of Ξ_{cc}^{++} decay.

Social Practice Activities

LEADER

Lanzhou, China

July. 2017 - July. 2017

- I have joined and organized various university activities for many times. In a social practice activity, as the leader, I led a team to interview the couriers in the city. And we held a report meeting attended by more than 200 students to introduce our survey results, this activity caused great reaction in the school.