

Bowen Duan

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EDUCATION

The Hong Kong University of Science and Technology (Guangzhou) <i>MPhil in Artificial Intelligence</i>	Guangzhou, China 09 / 2025 - Present
Fudan University <i>BE in Nuclear Engineering and Technology (specializing in particle physics)</i>	Shanghai, China 09 / 2020 - 07 / 2025
GPA: 3.12 / 4 (on a 100-point scale 83 / 100, ranked in the top 30%) Relevant Coursework: Linear Algebra, Probability Theory & Mathematical Statistics, Atomic Physics, Quantum Mechanics, Methods of Mathematical Physics, Programming	

RESEARCH EXPERIENCE

Measurement of the EDM of the Σ Baryon via $\psi(3686)$ Decay	Dec 2023 - May 2024
<i>Advisor: Liang Yan, Young Researcher, Institute of Modern Physics, Fudan University</i>	
- Analyzed 2.708×10^9 $\psi(3686)$ cases collected by BESIII in 2009, 2012 and 2021, and obtained 20792 cases of $\psi(3686) \rightarrow \Sigma^+ \bar{\Sigma}^-$ decay by selective reconstruction. The factors such as detector shape and detection efficiency were considered in combination with MC, and the possible background was also analyzed. - Through the decay process of $\psi(3686) \rightarrow \Sigma^+ \bar{\Sigma}^-$, used the obtained four-momentum physical information to fit the corresponding parameters with maximum likelihood. The statistical error is given by Bootstrap method. Calculated the electric dipole moment of Σ hyperon, and obtained the upper limit of EDM (Electric Dipole Moment) of Σ hyperon as $d_\Sigma < 1.724 \times 10^{-17} \text{ e} \cdot \text{cm}$ by statistical method. - The analysis was conducted on a Linux-based system, utilizing C for core algorithm implementation and shell scripting for workflow automation. It may be a new CP destruction mechanism to explain the asymmetry of positive and negative matter by measuring the electric dipole moments of particles.	

HONORS AND AWARDS

Outstanding Student of Fudan University	Oct 2023
Second Prize of the Scholarship for Outstanding Students at Fudan University (twice)	Sep 2023
Outstanding Student Leader of the Department of Nuclear Science and Technology	Oct 2022
Third Prize in the National Undergraduate Mathematics Competition	Dec 2024

LEADERSHIP AND ACTIVITIES

Student Union of the Department of Nuclear Science and Technology Minister of the Organization and Research Department	June 2022 - Oct 2023
Organized and planned events such as the Mid-Autumn Festival Gala and tug-of-war competition, and participated in research projects at the university's Youth Research Center.	
Flag Guard of Fudan University Member	Sep 2020 - June 2023
Served as the flag bearer in flag-raising ceremonies during events such as the opening ceremony, school anniversary, and National Day celebrations.	

SKILLS

Languages: fluent listening, speaking, reading, and writing in English
Computer Skills: C, Python, Shell.
Interests: Photography.