

ZHANG, Ce

ce.zhang@liverpool.ac.uk
www.liverpool.ac.uk/people/ce-zhang

EMPLOYMENT

Oct. 2022 – Present **Postdoctoral research associate**
University of Liverpool

EDUCATION

Sep. 2017 – Sep. 2022 **Ph.D. (Natural Science)**
Peking University

Sep. 2013 – Sep. 2017 **Bachelor of Science (Physics)**
Peking University

FUNDING & GRANTS

2019 - 2021 **State Scholarship from China Scholarship Council (CSC)**
Visiting student at High Energy Accelerator Research Organization (KEK)

2018 - 2019 **Visiting Student Grant at KEK**

2015 - 2016 **President Fund**
Undergraduate research program of Peking University

MAJOR COLLABORATIONS AND ROLES

2022 – Present
Projects **Muon g-2 experiment at Fermilab**

- **Data analysis (Runs 4-6)** on precession frequency and beam dynamics
- **Task Force Leader** on the Residual Slow-Term effect in the precession analysis

MUonE at CERN

- **Analysis framework** for hadronic α extraction and $\mu - e$ scattering
- **DQM development** for Beam Momentum Station (BMS)

2017 - 2022
PhD Project **Muon cooling for the J-PARC experiments (Mu1S-2S and g-2)**

- **Thermal muon source demonstration** using muonium laser ionization with silica aerogel
- **J-PARC Muon beamline** simulation and operation, including DAQ, high voltage systems, vacuum systems and related components
- **Novel multi-layer aerogel design** for enhanced muon cooling efficiency

2017 - 2022
Undergraduate Projects **Radiative decay of $\psi(3770)$ to pseudo-scalars at BESIII**
New physics search $J/\psi \rightarrow pe$ at BESIII

SKILLS

Programming languages	C/C++, python
Simulation	Geant4, Opera, CST studio
Analysis	ROOT, MATLAB
Engineering drawing	AutoCAD
Electronics	NIM, PLC, EPICS, FPGA

PUBLICATIONS

- [1] Muon g-2 Collaboration et al., *Measurement of the Positive Muon Anomalous Magnetic Moment to 127 ppb*, Phys. Rev. Lett. **135**, 101802 (2025).
- [2] Muon g-2 Collaboration et al., *Detailed Report on the Measurement of the Positive Muon Anomalous Magnetic Moment to 0.20 ppm*, Phys. Rev. D **110**, 032009 (2024).
- [3] The Muon g-2 Collaboration et al., *Measurement of the Positive Muon Anomalous Magnetic Moment to 0.20 ppm*, Phys. Rev. Lett. **131**, 161802 (2023).
- [4] C. Zhang et al., *Modeling the Diffusion of Muonium in Silica Aerogel and Its Application to a Novel Design of Multi-Layer Target for Thermal Muon Generation*, Nucl. Instrum. Methods Phys. Res. Sect. Accel. Spectrometers Detect. Assoc. Equip. **1042**, 167443 (2022).
- [5] C. Zhang et al., *Simulation Study of Laser Ionization of Muonium by 1S-2S Excitation for the Muon g - 2/EDM Experiment at J-PARC*, in *Proceedings of the 3rd J-PARC Symposium (J-PARC2019)*, Vol. 33 (Journal of the Physical Society of Japan, 2021).

PRESENTATIONS

Conferences

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| 09/2025 | NuFact 2025 - International Workshop on Neutrinos from Accelerators (<i>Invited plenary</i>)
Final result of Fermilab Muon g – 2 Experiment |
| 09/2024 | PSI Workshop - Exploring BSM physics with muons (<i>Personally invited plenary</i>)
Fermilab Muon g – 2 Experiment |
| 06/2024 | MITP Tropical Workshop 2024 (<i>Personally invited plenary</i> at Mainz)
J-PARC Muon g – 2/EDM experiment |
| 04/2024 | Workshop on Muon Physics at the Intensity and Precision Frontiers (<i>plenary</i> at Peking University)
The MUonE Experiment: Understanding Muon g-2 Puzzle via $\mu - e$ Scattering |
| 03/2024 | IOP annual meeting
Status of Fermilab Muon g – 2 Experiment |
| 08/2022 | The 13th International Workshop on e+e- collisions from Phi to Psi (<i>Plenary</i> at Fudan University)
Muon g – 2/EDM experiment at J-PARC |
| 07/2022 | NuFact 2022 - International Workshop on Neutrinos from Accelerators (<i>Plenary</i> , online)
Status of the Muon g – 2/EDM experiment at J-PARC |
| 08/2021 | International Workshop on Fundamental Physics Using Atoms (<i>Plenary</i> , online)
J-PARC Muon g – 2/EDM experiment |
| 03/2021 | JPS 76 th Annual meeting (<i>Plenary</i> , online)
Project status of the muonium laser-ionization using the 1S-2S transition |
| 09/2020 | JPS Autumn meeting (online)
Status of laser ionization of muonium via 1S-2S transition at J-PARC |
| 01/2020 | International Workshop on Fundamental Physics Using Atoms (<i>Personally invited</i> at RIKEN, Japan)
Preparation for experiment of muonium ionization with 1S-2S excitation |
| 09/2019 | JPS Autumn meeting (Yamagata University, Japan)
Ionization of thermal muonium via 1S-2S transition by pulsed laser |

Seminars

05/2025	Seminar at Institute of Modern Physics (IMP), Chinese Academy of Sciences, China Introduction to Muon Cooling technology at J-PARC
03/2025	Seminar at Tsung-Dao Lee Institute (TDLI), China The Status of MUonE experiment
12/2024	HEP Seminar, UCL, UK The MUonE experiment: Understanding Muon $g - 2$ Puzzle via $\mu - e$ Scattering
11/2024	HEP Seminar, University of Oxford, UK Recent Status and Challenges of the MUonE Experiment
10/2024	Seminar at Imperial College, UK Status of MUonE experiment
09/2024	HEP seminar, School of Physics, Sun Yat-sen University, China Muon $g-2$: When Experiment Meets Theory
08/2024	Bohr seminar, The University of Manchester, UK Progress and Status of the MUonE Experiment
06/2024	HEP Seminar, University of Cambridge, UK Status of MUonE experiment
10/2023	HEP Seminar, University of Warwick, UK New Results from the Muon $g - 2$ Experiment at Fermilab
09/2023	INPAC seminar, Shanghai Jiaotong University, China Introduction to the MUonE experiment
05/2022	PKU Young Researcher HEP seminar, Peking University, China Introduction to Muon Beam and Cooling
05/2021	Beihang HEP seminar, Beihang University, China J-PARC $g-2$ /EDM experiment
12/2020	KEK S-type project seminar, KEK, Japan Beam optics design at J-PARC S2 and status of the slow muon beam-line

OUTREACH

Co-author, *"Is there new physics beyond the Standard Model of particle physics? Our finding will help settle the question"*, **The Conversation**, 31 July, 2023. – A public-facing article explaining the muon $g-2$ measurements results.