Hanyue Guo

Orcid: 0009-0006-8430-2162
Github: hguo7.github.io
Nationality: Chinese
Phone:(+86) 15937597622
Email: hanyue.guo7@gmail.com

EDUCATION

Autonomous University of Barcelona Barcelona, Spain

Affiliated to the Port d'Informació Científica (PIC) and the Institut de Física d'Altes Energies (IFAE)
PhD Student 10/2023 - 10/2024
Research Topic: *Using deep learning to improve photometric redshift in galaxy surveys*

Beijing Institute of Technology Beijing, China
Master of Physics 09/2020 - 06/2023
Thesis: *Classification of fast radio bursts and their cosmological applications*

Nanjing University of Information Science and Technology Nanjing, China
Bachelor of Physics 09/2014 - 06/2018
Thesis: *Error estimation of the higher order moments of the net proton number in RHIC*

PUBLICATIONS

Han-Yue Guo and Hao Wei, *Fast radio bursts as standard candles for cosmology*, **Physics Letters B, Volume 859, 2024, 139120, ISSN 0370-2693**, https://doi.org/10.1016/j.physletb.2024.139120
Abstract: We constrained cosmological models using MCMC methods based on an empirical relation for a subclass of fast radio bursts.

Han-Yue Guo and Hao Wei, *A possible subclassification of fast radio bursts*, **JCAP 07 (2022) 010**, https://doi.org/10.1088/1475-7516/2022/07/010
Abstract: We compared the FRB observations with FRB simulations generated following the Star Formation History (SFH), and used this as a basis to classify the FRBs and analyze possible progenitor models for each class.

PROFESSIONAL PRESENTATIONS

Euclid First Post-Launch OU-PHZ Meeting, contributed talk: *'The Performance of Deepz on Flagship2 simulations.'* May 2024, Garching, Germany.

PAU Survey Telecon Meeting, contributed talk: *'Imputing missing flux measurements in PAUS with KNN.'* October 2024

PAU Survey Telecon Meeting, contributed talk: *'Add prior knowledge when predicting photo-z using deep learning.'* April 2024

"Make sense" postgraduate academic forum, contributed talk: *'A possible subclassification of fast radio bursts.'* October 2022, Beijing, China.

GRANTS

CSC Scholarship (€1350 per month for doctoral studies × 48 months) . . . . . from 10/2023
National Scholarship (€2600, the highest scholarship awarded to the top 1% of students from the Chinese Ministry of Education) 2022
First-class academic scholarship (€780) 2022
First-class academic scholarship (€780) 2020

RESEARCH INTERESTS

Cosmology, High-energy Astrophysics, Galaxy Survey, Deep Learning

RESEARCH EXPERIENCE

Applied AI Research Group Port d'Informació Científica (PIC)
PhD Student 10/2023-10/2024
Study the application of deep learning in galaxy surveys such as *Euclid* and *PAU*.

Cosmology Research Group Beijing Institute of Technology
Master Student 09/2020-06/2023
Using numerical analysis to study the population and properties of fast radio bursts, and applying fast radio bursts to cosmological research through MCMC methods.

TEACHING ASSISTANT

Beijing Institute of Technology
Physics Department Beijing
University Physics Spring, 2022

SUMMER SCHOOL AND TRAINING SCHOOL

Chinese Survey Space Telescope(CSST) Summer School 2022, Peking University

Astronomical data and Python Training School 2020, The National Astronomical Observatories of the Chinese Academy of Sciences(NAOC)

CONFERENCE

Fast Radio Bursts Conference 05/2023, Hefei, China

Annual Conference of Division of Gravitational and Relativistic Astrophysics, Chinese Physical Society 04/2023, Chongqing, China

Gravitational Lensing Symposium 2023 03/2023, Beijing, China

Annual Conference of Division of Gravitational and Relativistic Astrophysics, Chinese Physical Society 04/2021, Shenyang, China

TECHNICAL

Programming
Python, Linux, LaTeX

Analysis Tools
MCMC packages: emcee, CosmoMC and Cobaya
Deep Learning packages: Pytorch

Languages
Chinese: native
English: good (IELTS in preparation)

Database Management
MS Excel, SQL