# Xu Han

**Email**: xuhanphysik@gmail.com
**Post Adress**: Felsennelkenanger.21 München 80937
**Phone**: +49 015207495653

## Research experience

**Volunteer research project** 10/2024 – present
Ludwig Maximilian's University of Munich Munich, BY

- Studied the theory of galaxy clusters with CMB lensing and tSZE.

**Master project** 03/2023 – 08/2024
Ludwig Maximilian's University of Munich Munich, BY

- Studied the theory of cosmic voids and different methods for void finding.
- Developed a new watershed void finder algorithm for 2D full-sky weak lensing convergence maps.
- Investigated the influence of different 'parameters on the results from the void finder.
- Analysed the abundance, ellipticity and convergence profile of voids.
- Cosmology forecast with watershed weak lensing voids.
- Adjusted and applied the algorithm to observational data (DES).

**Bachelor project** 03/2021 – 08/2021
University of Duisburg-Essen Duisburg, NRW

- Studied the theory of the formation of planetsimals.
- Designed an experimental setup for the measurement of collisional charging on granules and measured their charges.
- Investigated the relationship between granulate's size and collisional charge.

## Publications

Watershed Cosmic Void Finder for Weak Gravitational Lensing Voids on 2D Full-Sky Convergence Maps (in prep)

## Talks

Watershed on the curved sky (Munich Cosmic Voids Meeting) 11/2023

## Skills

**Programming and Operating system**

Proficient in: Python (data analysis, algorithm development), Linux (Bash scripting), LaTeX (research paper writing).

Familiar with: Mathematica, Matlab, C.

**Languages**

Chinese (First language), English (Working language), German (C1), French (A2)

## Education

**Ludwig Maximilian's University of Munich** Munich, BY

M.Sc in Astrophysics 04/2022 – 08/2024

Thesis: Watershed Cosmic Void Finder for Weak Gravitational Lensing Voids on 2D Full-Sky Convergence Maps

Mentor: Professor Dr. Joseph. Mohr *GPA: 1,55 (German note system)*

**University of Duisburg-Essen** Duisburg, NRW

B.Sc in Physics 10/2018 – 03/2022

Thesis: Design of an experimental setup for the measurement of collisional charging on granulate

Mentor: Professor Dr. Gehard. Wurm *GPA: 1,8 (German note system)*

**Hubei University of Technology** Wuhan, Hubei

B.Eng in Electrotechnics 09/2012 – 07/2017

Mentor: Professor Dr. Na. Fang

**Selected coursework**

- Astrophysics: Essentials of Advanced Astrophysics, Statistical Methods, Cosmology and Structure Formation, Advanced Astrophysical Seminar, From Interstellar Clouds to Stars and Habitable Planets, Observational Methods

## Honors

Chinese Physics Olympiad-The second prize (Chinese Physical Society) 2011

Chinese Mathematics Olympiad-The third prize (Chinese Mathematical Society) 2011

Chinese Physics Olympiad-The second prize (Chinese Physical Society) 2010

## Other interests

Passionate about exploring nature through trail running and climbing, where I enjoy experiencing the beauty of the natural world. I also have a deep interest in reading, which allows me to reflect and explore more about the universe and its mysteries.