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Koutian Wu

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Education Background

Zhao Jiuzhang Talent Program in Earth and Space Sciences, USTC (B.S.) Sep 2020 – Expected in Jul 2024
Division of Space Physics, Major of Space Science and Technology

- Overall GPA: 3.46/4.30 (85.28/100)
- Selected Scholarship:
  * Zhao Jiuzhang Scholarship in Earth and Space Sciences (∼ 5%) 2022
  * Outstanding Student Scholarship of USTC (∼ 15%) 2022
  * Scholarship for Talent Program in Basic Disciplines of USTC (∼ 30%) 2020 - 2022

Selected Research Experience

Research Interests: Physics of Middle and Upper Atmosphere, Space Weather, Solar Physics

Meteor shower velocity estimates from the Mengcheng meteor radar **Apr 2022 - Now**
Advised by Prof. Xianghui Xue (USTC) Hefei, Anhui, China

- Presented a new method of atmospheric density estimation based on the meteor deceleration process.
- Discussed the spatial and temporal distribution of meteors using the most updated Mengcheng meteor radar data.
- **Assessed:** Part of the results of this study received 'A's in both the General Astronomy Course and Planetary Space Course in USTC.

Study the evolution of CME using in-situ observations near the Earth and Mars **Dec 2022 - Now**
Advised by Prof. Chenglong Shen (USTC), in collaboration with Jinshu Cai (USTC) Hefei, Anhui, China

- This project uses the observation of CME internal structure at different distances presented by the planetary exploration program to study the evolution of coronal mass ejection internal structural characteristics.

Construction of dynamic heat dissipation structure — 3D chip as an example **Jul 2021 - Aug 2021**
Advised by Prof. Quanshui Zheng (Tsinghua University & X-institute) and Prof. Jun Yang (UESTC), in collaboration with Yihao Yang (USTC) and Yuchen Li (SJTU) Shenzhen, Guangdong, China

- Designed a simple 4*4 dynamic motion structure model, whose heat dissipation ability is better than that of the static structure. This model expands the application scenario of dynamic heat dissipation structure.
- We attended an interdisciplinary poster session at X-Institute, showing our work to experts from different trajectories such as biology, information, and mechanics.
- **Assessed:** We received Best imagination Award. I and Yihao Yang were elected as X-Institute Student Fellows.

Seminar of Electromagnetic Wave Environment National Field Scientific Observation Station **Aug 2022**
Advised by Prof. Xianghui Xue (USTC) Kunming, Yunnan, China

- I was the **only undergraduate** student invited to the seminar.
- Visited meteor radar, incoherent scattering radar, MST radar, MF radar, and so on.
- The principle of middle and upper atmosphere remote sensing is discussed.

Selected Honors and Awards

- The first batch of X-Institute C2 Creative Talent (10/422) 2022
- USTC Essay Writing Competition of Electromagnetics (1rd Prize) 2022
- USTC Essay Writing Competition of Optics (2rd Prize) 2022
- The first batch of X-Institute Student Fellows 2021

Skills and Languages

- **Programming & Software** C/C++, Python, MATLAB, LaTeX, Markdown, HTML, Origin, Mathematica
- **English** CET - 4: 528 | TOEFL iBT: ? (R?, L?, S?, W?)

Leadership Experience

- USTC Student Society of Planetary Science, Vice president 2022 - Now
- USTC Online Academy of Training Plan for Top Students in Basic Disciplines, Student Administrator 2021 - Now
- USTC Student Xing Yun Poetry Club, founding president (The youngest of all club presidents) 2021 - 2022