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Koutian Wu

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Educational Background

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

- 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%, three times) 2020 - 2022
- **TA Experience:** edit the handout of **Plasma Physics** Course
  - Lectured by Prof. Yi Li (USTC), in collaboration with Xiaohang Xu Fall 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

- Discussed the Diurnal and annual variations of meteor numbers, meteor speed, and meteor altitude using the Mengcheng meteor radar data from 2014 to 2022 with the method of Gaussian distribution.
- Explained the spatial and temporal distribution of meteors on equinox days, solstice days, aphelion, and perihelion using the most updated Mengcheng meteor radar data of 2022.
- **Assessed:** Part of the results of this study received an A (91/100) in the General Astronomy Course and received an A (90/100) in 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

- 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.

Integrated practice of space physics and space detection (a course in USTC) **Jul 2022**
Directed by Prof. Jiuhou Lei et. al; in collaboration with Han Yue, Tianwen Hu, and Lantian Xue Hefei, Anhui, China

- Grasped the basic working principle of instruments such as temperature-detecting LiDAR and magnetometer. Analyzed solar-terrestrial observational data from satellite projects and remote sensing instruments.
- **Assessed:** I was the leader of Group 8, which received the first prize in the final presentation of the practice. I received an A+ (96/100) in the Practice of Space Physics course.

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.
- 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 Talents (10/422) 2022
- USTC Essay Writing Competition of Electromagnetics (1st Prize) 2022
- USTC Essay Writing Competition of Optics (2nd 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