

# Research Field: SPACE PHYSICS

## Focused Field: LUNAR AND PLANETARY SPACE PHYSICS

### SHORT BIO

I received my B.Sc. in Space Physics from the University of Science and Technology of China in July 2006 and completed my Ph.D. in June 2011 under at the National Space Science Centre, Chinese Academy of Sciences.

In 2011, I joined the Institute of Space Science and Technology at Nanchang University. In 2013, I began postdoctoral research on lunar space environments at Macau University of Science and Technology.

In 2015, I was appointed Assistant Professor at the State Key Laboratory of Lunar and Planetary Sciences, University of Science and Technology, affiliated with the Chinese National Space Administration. I was promoted to Associate Professor in 2021 and to Professor in 2024.

My research focuses on the solar wind, magnetic reconnection and the solar wind interactions with the Moon, Venus, and Mars. I have published near 100 papers, led five research projects, supervised more than 10 graduate students, and teach both undergraduate and postgraduate courses.

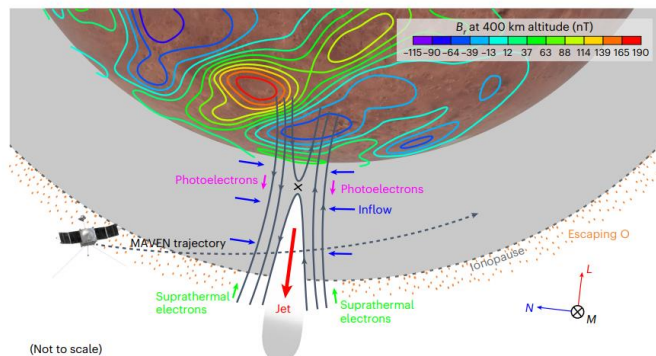
Prof.

Xiaojun Xu  
徐晓军



PhD: Space Physics– National Space Science Center, CAS

Bachelor: Space Physics– University of Science and Technology (USTC)



Sketch of mass ejection from Mars' ionosphere (Ye, Xu\* et al. 2024)

### KEY PUBLICATIONS (first/corresponding author)

1. Yudong Ye, **Xiaojun Xu\***, Lou-Chuang Lee, et al., In situ observation of mass ejections caused by magnetic reconnections in the ionosphere of Mars, **Nature Astronomy**, 8, 838, 2024.
2. Lei Luo, **Xiaojun Xu\***, Yu Zhang, et al., The three-fluid generalized Ohm's law: A theoretical study, **Physics of Fluids**, 35, 017134, 2023.
3. **Xiaojun Xu**, Lou-Chuang Lee, Qi Xu, et al., The siphonic energy transfer between hot solar wind and cold martian ionosphere through open magnetic flux rope, **Fundamental Research**, 4, 882-889, 2024.
4. J. Wang, J.Yu, **Xiaojun Xu\*** et al., MAVEN Observations of Magnetic Reconnection at Martian Induced Magnetopause, **Geophys. Res. Lett.**, 48, e2021GL095426, 2021
5. Xing Wang, **Xiaojun Xu\***, Jun Cui, et al., A linearized coupled model of acoustic-gravity waves and the lower ionosphere at Mars, **Astronomy & Astrophysics**, 688, A24, 2024.

### PROFESSIONAL EXPERIENCE

**2024 – Present** – Macau University of Science and Technology, Macao (China) – Prof.

**2021 – 2024** – Macau University of Science and Technology, Macao (China) – Assoc. Prof.

**2015 – 2021** – Macau University of Science and Technology, Macao (China) – Asst. Prof.

**2013 – 2015** – Macau University of Science and Technology, Macao (China) – Postdoc

### GRANTS (Principal Investigator)

- <Lunar and Planetary Space environment> 2022.01-2024.12  
(NSFC: [National Science Fund for Excellent Young Scholars](#))
- <Study of the Moon's energetic particle environment and forecast of the Earth's bow shock energetic particles at Moon> 2019.07-2022.07
- <Comparative study of Venusian and Martian induced magnetospheres> 2016.07-2019.07
- <The lunar wake interactions with small plasma structures in the solar wind> 2016.01-2019.12
- <The dynamic process of magnetic reconnection in the interplanetary solar wind> 2013.01-2015.12

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