Xiaojun Xu

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1） Brief Introduction

I am a Professor at Macau University of Science and Technology. I am a recipient of the Natural Science Fund for outstanding young scholars. My research interests include the solar wind, the lunar space environment and planetary space environment. I have published more than 80 papers, with 40 of these as the first author or corresponding author in <<Nature Astronomy>>, <<GRL>> and so on. In addition, I have successfully secured more than 10 grants as the Principal Investigator (PI).

2） Education

- 2006.09－2011.07, Center for Space Science and Applied Research (National Space Science Center), Chinese Academy of Sciences, Ph.D on Space Physics
- 2002.09－2006.07, University of Science and Technology of China, Bachelor on Geophysics

3） Work Experience

- 2024.07－present, Professor, Space Science Institute/State Key Laboratory of Lunar and Planetary Sciences, Macau University of Science and Technology.
- 2021.07－2024.06, Associate Professor, Space Science Institute/State Key Laboratory of Lunar and Planetary Sciences, Macau University of Science and Technology.
- 2015.09－2021.06, Assistant Professor, Space Science Institute/State Key Laboratory of Lunar and Planetary Sciences, Macau University of Science and Technology.
- 2017.01－2017.03, Visiting Scholar, Earth Planetary and Space Sciences, University of California, Los Angeles.
- 2013.09－2015.08, Postdoctoral fellow, Space Science Institute, Macau University of Science and Technology.
- 2011.07－2013.09, Specially-appointed Associate Professor, Institute of Space Science and Technology, Nanchang University.

4） Publications in the past 5 years (first/corresponding author , full list)

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, 838-845, 2024.
2. **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**, 2024.
3. **Xiaojun Xu*** & Jiaying Xu, A statistical study of the impact of the stream interaction regions on the heliospheric current sheet, **Physics of Fluids**, 36, 087113, 2024.
4. 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
5. Luo, L., **Xiaojun Xu***, Song, L., Zhou, M., Zhou, Z., Man, H., et al. The current tension electric field in the generalized Ohm's law. **Geophysical Research Letters**, 51, e2023GL107191, 2024.
6. **Xiaojun Xu*,** Xing Wang, Zilu Zhou, et al., Ion Loss within a Reconnection Exhaust near Mars: MAVEN Observations, **Astrophys. J**., 955:41, 2023.
7. Lei Luo, **Xiaojun Xu***, Yu Zhang, et al., The three-fluid generalized Ohm's law: A theoretical study, **Physics of Fluids**, 35, 017134, 2023.
8. Xing Wang, **Xiaojun Xu*,** Jun Cui, et al., Electron density variability in the dayside ionosphere of Mars: The role of gravity waves, **MNRAS**, 518, 4310–4321, 2023.
9. Siqi Yi, **Xiaojun Xu***, Zilu Zhou, et al., Theoretical study of the ionospheric dynamo region inside the South Atlantic Anomaly, **Earth and Planetary Physics**, 7(1), 1-9, 2023.
10. Qing Chang, **Xiaojun Xu***, Xing Wang et al., The Solar Wind Parker Spiral Angle Distributions and Variations at 1 au, **Astrophys. J.**, 931:105, 2022
11. Xing Wang, **Xiaojun Xu***, Yedong Ye, et al., MAVEN Observations of the Kelvin-Helmholtz Instability Developing at the Ionopause of Mars, **Geophysical Research Letters**, 518, 49, e2022GL098673, 2022.
12. Peishan He, **Xiaojun Xu***, Hsinchen Yu, et al., The Mercury’s Bow-shock Models Near Perihelion and Aphelion, **Astronomical. J**., 164, 260, 2022.
13. Zilu Zhou, **Xiaojun Xu*,** Pingbing Zuo, et al., PSP Observations of a Slow Shock Pair Bounding a Large-Scale Plasmoid/Macro Magnetic Hole, **Geophysical Research Letters**, 49, e2021GL097564, 2022.
14. Zilu Zhou, **Xiaojun Xu***, Pingbing Zuo, et al., Evidence for Plasma Heating at Thin Current Sheets in the Solar Wind, **Astrophys. J. Lett.**, 924, L22, 2022.

15. Ming Wang, **Xiaojun Xu***, Lou-Chuang Lee, et al., A magnetohydrodynamic simulation of the dayside magnetic reconnection between the solar wind and the Martian crustal field, **Astronomy & Astrophysics**, 924, L22, 2022.
16. Jiaying Xu, **Xiaojun Xu***, Yudong Ye, Qing Chang, and Qi Xu, The Nonrelaxation of Magnetic Field Lines in Solar Wind Magnetic Reconnection Exhausts, **Astrophys. J.,** 921, 137, 2021.
17. Jing Wang, Jiang Yu, **Xiaojun Xu***, et al., MAVEN Observations of Magnetic Reconnection at Martian Induced Magnetopause, **Geophysical Research Letters**,48, e2021GL095426, 2021.
18. Qi Xu, **Xiaojun Xu***, Tielong Zhang et al., The Venus Express observation of Venus' induced magnetosphere boundary at solar maximum, **Astronomy & Astrophysics**, 652, A113, 2021.
19. **Xiaojun Xu***, Jiaying Xu, Qi Xu, Qing Chang and Jing Wang, Rapid Refilling of the Lunar Wake under Transonic Plasma Flow: ARTEMIS Observations, **Astrophys. J.,** 908, 227, 2021.
20. Qing Chang, **Xiaojun Xu***, Qi Xu et al., The Demagnetization of the Venusian Ionosphere under Nearly Flow-aligned Interplanetary Magnetic Fields, **Astrophys. J.,** 900, 63, 2020.
21. Jiaying Xu, **Xiaojun Xu***, Jing Wang, Yudong Ye, Qing Chang and Qi Xu, The Relaxation of Reconnected Open Magnetic Field Lines in the Earth's Magnetosphere, **Astrophys. J.,** 900, 52, 2020.
22. Jing Wang, Lou-Chuan Lee, **Xiaojun Xu***, et al., Plasma and magnetic-field structures near the Martian induced magnetosphere boundary I. Plasma depletion region and tangential discontinuity, **Astronomy & Astrophysics**, 642, A34, 2020.
23. Jing Wang, **Xiaojun Xu***, Jiang Yu and Yudong Ye, South-north asymmetry of proton density distribution in the Martian magnetosheath, **Earth and Planetary Physics**, 4, 32, 2020.
24. Qi Xu, **Xiaojun Xu*,** Qing Chang et al., An ICME impact on the Martian hydrogen corona, **Earth and Planetary Physics**, 4, 38, 2020.
25. **Xiaojun Xu***, Qi Xu, Qing Chang, et al., ARTEMIS Observations of Well-structured Lunar Wake in Subsonic Plasma Flow, **Astrophys. J.**, 881, 76, 2019.
26. Qing Chang, **Xiaojun Xu***, Qi Xu et al., Multiple-point Modeling the Parker Spiral Configuration of the Solar Wind Magnetic Field at the Solar Maximum of Solar Cycle 24, **Astrophys. J.**, 884, 102, 2019.
27. Qi Xu, **Xiaojun Xu*,** Qing Chang et al., Observations of the Venus Dramatic Response to an Extremely Strong Interplanetary Coronal Mass Ejection, **Astrophys. J.**, 876, 84, 2019.