



Research Field: PLANETARY GEOLOGY

Focused Field: IMPACT CRATERING & IMPACTOR SOURCES

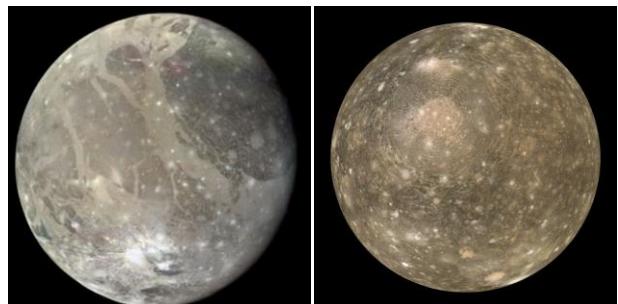


SHORT BIO

I'm currently an Assistant Professor in State Key Laboratory of Lunar and Planetary Sciences, Macau University of Science and Technology. I got my B.E. in Surveying and Mapping Engineering and master's degree in Planetary Geodesy from Wuhan University in 2011 and 2014, respectively, and got my Ph.D. in Planetary Geology from the University of Tokyo in 2017. My current research fields are impact processes on the Moon and Galilean satellites (especially Ganymede and Callisto). I've published over 10 papers in professional journals, including *Nature Astronomy*, *Nature Communication*, *Astronomy & Astrophysics*, *Geophysical Research Letters*, etc.

Assistant Prof. XU LUYUAN

Ph.D: Planetary Geology – The University of Tokyo
Master: Planetary Geodesy – Wuhan University
Bachelor: Surveying and Mapping Engineering – Wuhan University



Jovian satellites: Ganymede and Callisto

PUBLICATIONS (selected)

- Xu, L., Qiao, L., Xie, M., et al. (2022). Formation age of lunar Lalande crater and its implications for the source region of the KREEP-rich meteorite Sayh al Uhaymir 169. *Icarus*, 115166.
- Yang, K., Feng, W., Xu, L., et al. (2022). Review of research on lunar dust dynamics. *Astrophysics and Space Science*, 367(7), 1-12.
- Xu, L., Qiao, L. (2022). Formation age of the Rima Sharp sinuous rill on the Moon, source of the returned Chang'e-5 samples. *Astronomy & Astrophysics*, 657.
- Qiao, L., Xu, L., Yang Y., et al. (2021). Cratering Records in the Chang'e-5 Mare Unit: Filling the "Age Gap" of Lunar Crater Chronology and Preparation for its Re-calibration. *Geophysical Research Letters*, 48, e2021GL095132. (cover paper)
- 徐璐媛. (2021). 木星和土星冰卫星上的撞击坑分布：探寻外太阳系撞击体来源的钥匙. *地质学报*, 95(9)
- Qiao, L., Chen, J., Xu, L., et al. (2021). Geology of the Chang'e-5 landing site: Constraints on the sources of samples returned from a young nearside mare. *Icarus*, 364, 114480.
- Xu, L., Zhang, X., Qiao, L., & Lai, J. (2021). Evaluating the Thickness and Stratigraphy of Ejecta Materials at the Chang'e-4 Landing Site. *The Astronomical Journal*, 162(1), 29.
- Xie, M., Xiao, Z., Xu, L., et al. (2021). Change in the Earth–Moon impactor population at about 3.5 billion years ago. *Nature Astronomy*, 5(2), 128-133.
- Xu, L., Xie, M., (2020). Ejecta Thickness Distribution of Lunar Schrödinger Basin. *Journal of Geophysical Research: Planets*, 125(12).
- Lai, J., Xu, Y., Bugiolacchi, R., ..., Xu, L. (2020). First look by the Yutu-2 rover at the deep subsurface structure at the lunar farside. *Nature Communications*, 11 (1), 1-9.
- Xu, L., Hirata, N. & Miyamoto, H. (2019). Spatial distribution of ray craters on Callisto: Implications for ray retention and impactor sources on Jovian satellites. *Journal of Geophysical Research: Planets*, 124 (7), 1717-1727
- Xu, L., Hirata, N. & Miyamoto, H. (2017). Ray craters on Ganymede: Implications for cratering apex-antapex asymmetry and surface modification processes. *Icarus*, 295, 140-148.
- Li, F., Yan, J., Xu, L., et al. (2015). A 10 km-resolution synthetic Venus gravity field model based on topography. *Icarus*, 247, 103-111.
- Yan, J., Xu, L., Li, F., et al. (2015). Lunar core structure investigation: Implication of GRAIL gravity field model. *Advances in Space Research*, 55(6), 1721-1727.

PROFESSIONAL EXPERIENCE

- 2022.10 – current: Assistant Professor, SKLplanets, Macau University of Science and Technology
- 2017.11 – 2022.10: Post-doctoral, SKLplanets, Macau University of Science and Technology

GRANTS

- 2018-2021 Scientific Analysis of Chang'E-4 Lunar Exploration Data, The Science and Technology Development Fund (FDCT), Sub-project Co-investigators
- 2018-2019 月球撞击坑溅射毯厚度分布特征研究, 上海天文台开放基金, 主持
- 2014-2017 基于新近多探测器的月球与火星重力场模型研究(41374024), 国家自然科学基金面上项目, 参与
- 2012-2015 基于多月球探测器低轨跟踪数据的月球局部重力场及构造研究(4117419), 国家自然科学基金面上项目, 参与