

教學人員簡介

姓名：祝夢華

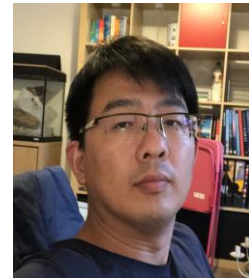
職稱：助理教授

學院/部門：太空科學研究所

辦公室：C604

電話：+853 8897 2024

電郵地址：mhzhu@must.edu.mo



學歷

澳門科技大學，博士，2010

教學領域

MSEZ05 數值分析（研究生，秋季）

MSEE04 物理數學方法（研究生，秋季）

GLA001 線性代數（本科，2017）

研究領域

行星表面撞擊事件

遙感光譜探測與分析（x/gamma射線，中子以及高光譜）

工作經歷

澳門科技大學，助理教授（2012年 - 至今）

中科院紫金山天文台，訪問教授（2011.01-2012.06）

澳門科技大學，博士後（2010-2012）

研究項目

小行星表面元素探測用伽瑪射線譜儀關鍵技術及能譜解析方法研究，國家自然科學基金 2018-2021

月表撞擊坑成坑機制數值模擬與應用，澳門科學技術發展基金，2015-2017

多源雷達資料對月表淺表層特性研究，澳門科學技術發展基金，2017-2019

學術成果

期刊文章：

1. Luther R., **M. -H. Zhu**, G. Collions, and K. Wünnemann, The effect of target properties on ejection dynamics and ejecta deposition, *Meteoritics and Planetary Science*, 2018 10.1111/maps.13143.
2. Zhang F. and **M. -H. Zhu**, et al. (2018), Diversity of basaltic lunar volcanism associated with buried impact structures: Implications for intrusive and extrusive events, *Josma*, 207, 216-224

buried impact structures: implications for intrusive and extrusive events, *Icarus*, 301, 216-234, doi:10.1016/j.icarus.2017.10.039.

3. **Zhu M. –H.**, K. Wünnemann, and N. Artemieva (2017), Target's thermal effect on the ejecta thickness distribution of large-scale impact basins on the Moon, *Geophysical Research Letters*, 44, 11,292-11,300, doi: 10.1002/2017GL075405.
4. Xie M. G. and **M. –H. Zhu**, et al. (2017), Effect of topography degradation on crater size-frequency distributions: Implications for populations of small craters and age dating, *Geophysical Research Letters*, 44, 10,171-10,179, doi:10.1002/2017GL075298.
5. Zhang F., J. Head, A. Bazilevskiy, R. Bugiolacchi, G. Komatsu, L. Wilson, W. Fa, and **M. –H. Zhu** (2017), Ring-moat dome structures: a newly discovered stratigraphically young features in the lunar maria, *Geophysical Research Letters*, 44, 9216-9224, doi: 10.1002/2017GL074416.
6. Xu X. M., T. Kenkmann, Z. Xiao, S. Sturm, N. Metzger, Y. Yang, D. Weimer, H. Krietsch, and **M. –H. Zhu** (2017), Reconnaissance survey of the Duolun ring structure in Inner Mongolia: Not an impact structure, *Meteoritics and Planetary Science*, doi:10.1111/maps.12890.
7. Rolf T., **M. –H. Zhu**, Wünnemann, and S. W. Werner (2017), The role of impact bombardment history in lunar evolution, *Icarus*, 286, 138-152, doi: 10.1016/j.icarus. 2016.10.007.
8. **Zhu M. –H.** (2016), On estimating the background of the remote sensing gamma ray spectroscopic data, *Nuclear Instruments and Methods in Physics Research A*, 832, 259-263, doi: 10.1016/j.nima.2016.06.134.
9. Wünnemann K., **M. -H. Zhu**, and D. Stöffler (2016), Crater formation, shock metamorphism, and ejecta distribution in laboratory experiments and modeling, *Meteoritics and Planetary Science*, 51, 1762-1794, doi:10.1111/maps.12710.
10. Zhang F. and **M. –H. Zhu**, and Y. L. Zou (2016), Late stage Imbrium volcanism on the Moon: Evidence for two source regions and implications for the thermal history of Mare Imbrium, *Earth and Planetary Science Letters*, 445, 13-27, doi: 10.1016/j.epsl.2016.04. 003.
11. Xie M. G. and **M. –H. Zhu** (2016), Estimates of primary ejecta and local material for the Orientale basin: Implications for the formation and ballistic sedimentation of multi-ring basins, *Earth and Planetary Science Letters*, 440, 71-80, doi: 10.1016/j.epsl.2016.02.012.
12. Dong W., X. P. Zhang, **M. –H. Zhu**, A. Xu, and Z. Tang (2016), Global Mg/Si and Al/Si distribution on lunar surface derived from Chang'E-2 X-ray spectrometer, *Research in Astronomy and Astrophysics*, 16, 004, doi:10.1088/1647-4527/16/1/004.
13. **Zhu M. –H.**, K. Wünnemann, R. Potter (2015), Numerical modeling of the ejecta distribution and formation of the Orientale basin on the Moon, *Journal of Geophysical Research: Planets*, 120, 2118-2134, doi:10.1002/2015JE004827.
14. Fa W., **M. –H. Zhu**, T. T. Liu, J. Plescia (2015), Regolith stratigraphy at the Chang'E-3 landing site as seen by Lunar Penetrating Radar, *Geophysical Research Letters*, 42, 10,179-10,187, doi:10.1002/2015GL066537.
15. Jin W. D., H. Zhang, Y Yuan, Y. Z. Yang, Y. G. Shkuratov, P. G. Lucey, V. G. Kaydash, **M. –H. Zhu**, B. Xue, K. C. Di, B. Xu, W. H. Wan, L. Xiao, and Z. W. Wang (2015), In situ optical measurements of Chang'E-3 landing site in Mare Imbrium: 2. Photometric properties of the regolith, *Geophysical Research Letters*, 42, 8312–8319, doi:10.1002/2015GL065789.
16. Zhang H., Y. Z. Yang, Y. Yuan, W. D. Jin, P. G. Lucey, **M. –H. Zhu**, V. Kaydash, Y. Shkuratov, K. C. Di, W. H. Wan, B. Xu, L. Xiao, Z. W. Wang, B. Xue (2015), In-site optical measurements of Chang'E-3 landing site in Mare Imbrium: 1. Mineral abundances inferred from spectral reflectance,

17. **Zhu M. -H.**, J. Chang, M. G. Xie, J. Fritz, V. Fernandes, W. H. Ip, T. Ma, A. A. Xu (2015), The unique source of re-surfaced deposits in Mare Orientale: Radioactive elemental evidences derived from Chang'E-2 gamma-ray spectrometer, *Earth and Planetary Science Letters*, 418, 172-180, doi:10.1016/j.epsl.2014.11.009.
18. Fa W., T. T. Liu, **M. -H. Zhu**, J. Haruyama (2014), Regolith thickness over Sinus Iridum: Results from morphology and size-frequency distribution of small impact craters, *Journal of Geophysical Research: Planets*, 119, 1914-1935, doi:10.1002/2013JE 004604.
19. **Zhu M. -H.**, W. Fa, W. H. Ip, J. Huang, J. Yan, T. T. Liu, A. A. Xu, Z. Tang, L. Z. Meng, X. L. Wang, Y. Li, D. Qian (2014), Morphology of asteroid (4179) Toutatis as observed by Chang'E-2 spacecraft, *Geophysical Research Letters*, 41, 328-333, doi:10.1002/201 058914.
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21. Ma T., J. Chang, N. Zhang, J. Wu, M. Cai, Y. Gong, H. Tang, R. Zhang, N. S. Wang, M. Yu, J. P. Mao, Y. M. Hu, A. A. Xu, **M. -H. Zhu** (2013), Gamma-ray spectrometer onboard Chang'E-2, *Nuclear Instruments and Methods in Physics Research A*, 726, 113-115, doi: 10.1016/j.nima.2013.05.162.
22. **Zhu M. -H.**, J. Chang, T. Ma, W. H. Ip, W. Z. Fa, J. Wu, M. S. Cai, Y. Z. Gong, Y. M. Hu, A. A. Xu, Z. S. Tang (2013), Potassium map from Chang'E-2 constraints the impact of Crisium and Orientale basin on the Moon, *Scientific Reports*, 3, 1611, doi:10.1038/srep 01611.
23. **Zhu M. -H.**, T. Ma, J. Chang, W. -H. Ip, Z. S. Tang, A. A. Xu (2011), Lunar potassium distribution: results from Chang'E-1 gamma ray spectrometer, *Science China Physics, Mechanics & Astronomy*, 54, 2083-2090, doi:10.1007/s11433-011-4491-x.
24. **Zhu M. -H.**, T. Ma, J. Chang (2010), Chang'E-1 gamma ray spectrometer and preliminary radioactive results on the lunar surface, *Planetary and Space Science*, 58, 1547-1554, doi: 10.1016/j.pss.2010.07.022.
25. **Zhu M. -H.**, L. G. Liu, Y. S. Cheng, T. K. Dong, Z. You, A. A. Xu (2009), Iterative estimation of the background in noisy spectroscopic data, *Nuclear Instruments and Methods in Physics Research A*, 602, 597 – 599, doi: 10.1016/j.nima.2009.01.174.
26. **Zhu M. -H.**, L. G. Liu, D. X. Qi, Z. You, A. A. Xu (2009), Least square fitting of low-resolution gamma-ray spectra with Cubic B-Spline basis functions, *Chinese Physics C*, 33, 24 – 30, doi: 10.1088/1674-1137/33/1/006.
27. **Zhu M. -H.**, L. G. Liu, Z. You, A. A. Xu (2009), Heuristic approach for peak regions estimation in gamma-ray spectra measured by NaI detector, *Chinese Physics C*, 33, 205 – 205, doi: 10.1088/1674-1137/33/3/009.
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29. **Zhu M. -H.**, L. G. Liu, D. X. Qi, Z. You, A. A. Xu (2008), Smoothing noisy spectroscopic data with many-knot spline method, *Nuclear Instruments and Methods in Physics Research A*, 589, 484 – 486, doi: 10.1016/j.nima.2008.03.008.
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31. **Zhu M. –H.**, L. G. Liu, A. A. Xu, T. Ma (2008), Automatic estimation of peak regions in gamma-ray spectra measured by NaI detector, *Chinese Physics Letter*, 25, 3942 – 3945, doi: 10.1088/0256-307X/25/11/029.

會議論文：

1. **Zhu M. –H.**, N. Artemieva, A. Morbidelli, K. Wunnemann, H. Becker (2018), The Moon's impact history: Reconstruction based on highly siderophile elements, *81st Annual Meeting of the Meteoritical Society*, Moscow, Russia, Abstract no. 6102.
2. Schwinger S. and **M. –H. Zhu** (2018), Forming a lunar dichotomy by giant impact melting, *European Planetary Science Congress*, Berlin, Germany, Abstract no. EPSC2018-1000.
3. Lompa T., K. Wunnemann, and **M. –H. Zhu** (2018), Formation of impact basins on the Moon- insights from numerical modeling, gravity and remote sensing data, *European Planetary Science Congress*, Berlin, Germany, Abstract no. EPSC2018-224.
4. **Zhu M. –H.**, K. Wunnemann, A. Morbidelli, N. Artemieva (2018), South Pole-Aitken basin may contribute insignificantly to the late accretion of the Moon, *Lunar and Planetary Science Conference*, Houston, TX, Abstract no. 1955.
5. Schwinger S. and **M. –H. Zhu** (2018), Redistribution of Titanium in the lunar mantle by giant impact-induced melting, *Lunar and Planetary Science Conference*, Houston, TX, Abstract no. 2343.
6. Du J., W. Fa, M. A. Wiczorek, M. Xie, and **M. –H. Zhu** (2018), New estimation of lunar mare basalt thickness based on partially buried craters, *Lunar and Planetary Science Conference*, Houston, TX, Abstract no. 1865.
7. Wunnemann, K., M. Lukas, **M. –H. Zhu**, M. Makajima, D. Breuer, S. Schwinger, A. –C. Plesa (2017), Impact-induced melting and heating of planetary interiors-Implications for the thermo-chemical evolution of planets and crystallization of magma ocean, *AGU*, Abstract No. 228653, New Orleans, USA.
8. Engelmann J., K. Wunnemann, R. Luther, and **M. –H. Zhu** (2017), Quantification of shock-induced melting and its distribution in the ejecta, *European Planetary Science Congress 2017*, EPSC2017-251.
9. Breuer D., Schwinger S., **M. –H. Zhu**, K. Wunnemann, and A. –C. Plesa (2017), The influence of impacts on the lunar magma ocean crystallization, *Accretion and Early Differentiation of the Earth and Terrestrial Planets*, Nice, France.
10. **Zhu M. –H.**, K. Wunnemann, R. W. Potter, T. Kleine, and A. Morbidelli (2017), Forming the Moon's nearside-farside dichotomies via giant impact, *Accretion and Early Differentiation of the Earth and Terrestrial Planets*, Nice, France.
11. Fernandes V. A., R. Bugess, L. Cooper, P. Czaja, A. Khan, C. Liebske, C. Neal, J. Sliwinski, and **M. –H. Zhu** (2017), Type, chemistry, Ar-isotopes and magma generation of new Apollo 17 basaltic regolith fragments, *New Views of the Moon 2-Europe*, Münster, Abstract no. 6011.
12. Frochtenicht T., K. Wunnemann, and **M. –H. Zhu** (2017), Formation of impact basins on the Moon- Insights from numerical modelling, gravity and remote sensing data, *European Lunar Symposium 2017*, Münster, Germany.
13. **Zhu M. –H.**, K. Wunnemann, R. W. Potter, T. Kleine, and A. Morbidelli (2017), Forming the Moon's nearside-farside dichotomies via giant impact, *Lunar and Planetary Science Conference*, Houston, TX, Abstract no. 1851.
14. Fernandes V. A., R. Bugess, P. Czaja, C. Liebske, C. Neal, J. Sliwinski, and **M. –H. Zhu** (2017), Type, chemistry, ⁴⁰Ar-³⁹Ar and cosmic ray exposure age of new Apollo 17 basaltic regolith fragments, *Lunar and Planetary Science Conference*, Houston, TX, Abstract no. 1282.
15. Zhang F. and **M. –H. Zhu** (2017), Resurfacing of Procellarum-Imbrium region by tectonism and volcanism: the role of the basin-radial fracture zones around the Imbrium basin, *Lunar and Planetary Science Conference*, Houston, TX, Abstract no. 1710.

16. Wunnemann K., J. Engelmann, R. Luther, C. Hamann, and **M. –H. Zhu** (2017), Impact-induced shock melting and ejection of material in an asteroidal environment – implications for the deficit in melt agglutinates in Itokawa, *Lunar and Planetary Science Conference, Houston, TX, Abstract no. 2023*.
17. Wilk J., M. Zanett, A. Losiak, A. Joeleh, R. Valja, T. Wisniowski, K. Pavel, A. Kukko, H. Kaartinen, J. Plado, **M. –H. Zhu**, and W. D. Geppert (2016), Kaali impact crater: A structural investigation of a small crater based on 3D laser scanning, strike and Dip measurements, ground penetrating radar, electro-resistivity tomography nad iSALE-2D numerical modeling, *79th Annual Meeting of the Meteoritical Society, Berlin, Abstract no. 6556*.
18. Losiak A., C. Belcher, V. Hudspith, M. Bronikowska, **M. –H. Zhu**, A. Joeleht, J. Plado, and J. Wilk (2016) Kaali impact crater: Impact-produced Charcoal sheds light on the processes associated with the formation o small craters, *79th Annual Meeting of the Meteoritical Society, Berlin, Abstract no. 6219*.
19. Hamann C. **M. –H. Zhu**, K. Wunnemann, L. Hecht, and D. Stoffler (2016), Tracing shock wave attenuation in porous, particulate targets: Insights from Impact experiments and numerical modeling, *79th Annual Meeting of the Meteoritical Society, Berlin, Abstract no. 6335*.
20. **Zhu M. –H.**, M. Bronikowska, and A. Losiak (2016), The formation of Kaali crater, Estonia: Insights from numerical modeling, *79th Annual Meeting of the Meteoritical Society, Berlin, Abstract no. 6325*.
21. **Zhu M. –H.**, K. Wunnemann, and N. Artemieva (2016), Ejecta distribution and crater formation of large impact basins on the Moon: Insights from numerical modeling, *79th Annual Meeting of the Meteoritical Society, Berlin, Abstract no. 6331*.
22. Xi X. Y. and **M. –H. Zhu** (2016), The crater formation and ejecta trajectory for the Stickney crater of Phobos, *Asia Oceania Geosciences Society, Beijing, China*.
23. Zhang F. and **M. –H. Zhu** (2016), Intrusion bellow Volcanically Buried Craters in Mare Fecunditatis Indicated by Extrusive Features Associated with Mare Ridge Ring Structures, *Lunar and Planetary Science Conference, Houston, TX, Abstract no. 1798*.
24. Xie M. G. and **M. –H. Zhu** (2016), Estimates of Primary Ejecta and Local Material for the Orientale Basin on the Moon, *Lunar and Planetary Science Conference, Houston, TX, Abstract no. 1747*.
25. Fernandes V. M. Storey, and **M. –H. Zhu** (2016), Report on Initial Characterization of New Apollo 17 Basaltic Soil Fragments, *Lunar and Planetary Science Conference, Houston, TX, Abstract no. 1020*.
26. Rolf T., **M. –H. Zhu**, K. Wunnemann, and S. C. Werner (2016), The Role of Basin-Forming Impacts in the Global Lunar Evolution, *Lunar and Planetary Science Conference, Houston, TX, Abstract no. 1423*.
27. Luther R., **M. –H. Zhu**, K. Wunnemann, and N. A. Artemieva (2016), Impact Ejecta Mechanics: Atmospheric Interation and Fragment-size Distribution from Numerical Modeling, *Lunar and Planetary Science Conference, Houston, TX, Abstract no. 1950*.
28. Losiak A., C. Belcher, V. Hudspith, **M. –H. Zhu**, M. Bronikowska, A. Joeleht, and J. Plado (2016), How to form charcoal in a small impact crater? A Kaali crater case, *Lunar and Planetary Science Conference, Houston, TX, Abstract no. 1467*.
29. Werner S. C., **M. –H. Zhu**, K. Wunnemann and T. Rolf (2016), Mass Delivery onto Terrestrial Planets-Insight from Scaling Laws and Basin Record, *Lunar and Planetary Science Conference, Houston, TX, Abstract no. 1884*.
30. **Zhu M. –H.** and K. Wunnemann (2016), Giant Impact Forming the Crustal Thickness Dichotomy of the Moon, *Lunar and Planetary Science Conference, Houston, TX, Abstract no. 1771*.
31. Losiak A., C. Belcher, V. Hudspith, **M. –H. Zhu**, M. Bronikowska, A. Joeleht, and J. Plado (2016), How to form charcoal in a small impact crater? A Kaali crater case, *EGU General Assembly, Vol. 18, Abstract no. EGU2016-10317*.
32. Werner S. C., **M. –H. Zhu**, T. Rolf, and K. Wunnemann (2016), Moon: Basin-forming impacts in scale, time and as thermal and mass input, *EGU General Assembly, Vol. 18, Abstract no. EGU2016-11517*.
33. **Zhu M. –H.** and K. Wunnemann (2015), Numerical modeling of Ejecta distribution of large impact basins on the Moon, *Bridging the Gap III, Freiburg, Germany, Abstract no. 1062*.
34. Wunnemann K. **M. –H. Zhu**, and D. Stoffler (2015), Insight into crater formation, shock metamorphism and ejecta distribution from laboratory experiments and modeling, *Bridging the Gap III, Freiburg, Germany, Abstract no. 1067*.
35. Zanetti M. J. Wilk J. Kukko H. Kaartinen M. Kobayashi A. Joeleht R. Valja K. Pavel A. Krüger J.

35. Zaitsev M. J., Wiik, A., Kurko, P., Naarinen, M., Kohn, A., Joensuu, K., Vajja, K., Paaveli, A., Niiska, J., Plado, A., Losiak, T., Wisniowski, M., Huber, and **M. -H. Zhu** (2015), The structure of the Kaali impact crater (Estonia) based on 3D laser scanning, electro-resistivity tomography, and iSALE hydrocode modeling, *Bridging the Gap III*, Freiburg, Germany, Abstract no. 1103.
36. Rolf T. M. Schott, R. Luther, **M. -H. Zhu**, K. Wunnemann, and S. C. Werner (2015), Thermal and volcanic evolution of small planetary bodies: role of impact processes through shock heating and insulating ejecta deposits, *Bridging the Gap III*, Freiburg, Germany, Abstract no. 1050.
37. Wunnemann K. and **M. -H. Zhu** (2015), Numerical modeling of ejecta distribution and crater formation of large impact basins on the Moon, *78th Annual Meeting of the Meteoritical Society*, San Francisco, Abstract no. 5108.
38. Zhang X. P., M. G. Xie, **M. -H. Zhu**, W. D. Dong, Z. S. Tang, and A. A. Xu (2015) Major elements abundances in Chang'E-3 landing site from Active Particle-induced X-ray Spectrometer, *EGU General Assembly*, Vol. 17, Abstract no. EGU2015-726.
39. **Zhu M. -H.**, K. Wunnemann, R. W. K. Potter (2015), New estimates of the Orientale basin impactor size from modeling of the ejecta thickness distribution, *Lunar and Planetary Science Conference*, Houston, TX, Abstract no. 1770.
40. **Zhu M. -H.**, J. Chang, M. G. Xie, J. Fritz, V. Fernandes, W. -H. Ip, T. Ma, and A. A. Xu (2015), The uniform K distribution of the Mare deposits in the Orientale basin: insights from Chang'E-2 gamma ray spectrometer, *Lunar and Planetary Science Conference*, Houston, TX, Abstract no. 1207.
41. Liu T. T., W. Z. Fa, **M. -H. Zhu** (2015) Rules for regolith thickness estimation using crater morphology and its application to oceanus Procellarum, *Lunar and Planetary Science Conference*, Houston, TX, Abstract no. 1253.
42. Fa W. Z., **M. -H. Zhu**, T. T. Liu, and J. B. Plescia (2015), Shallow subsurface structure of the Moon at the Chang'E-3 landing site as revealed by lunar penetrating radar, *Lunar and Planetary Science Conference*, Houston, TX, Abstract no. 1136.
43. T. Kenkmann, R. Maier, S. Sturn, and **M. -H. Zhu** (2014), New tektite discoveries in the Guangdong Province, China, and the search for the source crater of the Australasian tektite strewn field, *Annual Meeting of the Meteoritical Society*, Casablanca, Morocco, Abstract no. 5142.
44. K. Wunnemann, **M. -H. Zhu**, D. Stöffler (2014), Crater formation, shock metamorphism, and ejecta distribution in laboratory experiments and modeling, *Annual Meeting of the Meteoritical Society*, Casablanca, Morocco, Abstract no. 5142.
45. T. Kenkmann, R. Maier, S. Sturn, and **M. -H. Zhu** (2014), New tektite discoveries in the Guangdong Province, China, and the search for the source crater of the Australasian tektite strewn field, *GEO??*, Frankfurt, Germany, Abstract no. xxx.
46. K. Wunnemann, **M. -H. Zhu** (2014), Impact cratering on the Moon and Planets, *International Symposium on Lunar and Planetary Science*, Macau.
47. **Zhu M. -H.**, J. Chang, W. Fa, W. H. Ip, T. Ma, M. G. Xie, A. A. Xu, and Z. S. Tang (2014), Thorium on the lunar highlands surface: Insights from Chang'E-2 gamma-ray spectrometer, *Lunar and Planetary Science Conference*, Houston, TX, Abstract no. 1237.
48. T. Liu, W. Fa, **M. -H. Zhu**, and J. Haruyama (2014), Regolith thickness estimation over Sinus Iridum using morphology and size-frequency distribution of small craters from LROC images, *Lunar and Planetary Science Conference*, Houston, TX, Abstract no. 1347.
49. **Zhu M. -H.**, K. Wunnemann (2013), Modeling of Meteorite Impact-Induced Secondary Mass Wastering - Case Study by Means of the Bunte Breccia Ejecta Blanket at Ries Crater, Germany, *Lunar and Planetary Science Conference*, Houston, TX, Abstract no. 1921.
50. **Zhu M. -H.**, J. Chang, W. H. Ip, T. Ma, Z. S. Tang, A. A. Xu (2013), Lunar Gamma-ray Observations from China's Chang'E-2 Spacecraft, *Asia Oceania Geosciences Society*, Brisbane, Australia.
51. W.D. Dong, **M. -H. Zhu**, X. P. Zhang, W. H. Ip, A. A. Xu, Z.S. Tang (2013), Lunar X-ray Fluorescence Observations from Chang'E-2 X-ray Spectrometer, *Asia Oceania Geosciences Society*, Brisbane, Australia.
52. N. Hasebe, H. Nagaoka, Y. Fujibayashi, Y. Ideguchi, M. Hareyama, Y. Karouji, T. Okada, S. Kobayashi, E. Shibamura, M. Kobayashi, K. J. Kim, C. d'Uston, O. Gasnault, O. Forni, R. C. Reedy, N. Yamashita, **M. H. Zhu** (2012), Global maps of elements on the Moon: The Kaguya Gamma-ray Spectrometer, *Asia Oceania Geosciences Society*, Singapore.
53. **Zhu M. -H.**, J. Chang, T. Ma, M. S. Cai, Y. Z. Gong, J. Wu, Y. M. Hu, W. -H. Ip, Z. S. Tang, A. A. Xu (2012), The measurements of Gamma-ray spectrometer from China's Chang'E-1/2 spacecrafts, *20th COSPAR Scientific Assembly*, India.

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54. **Zhu M. -H.**, J. Chang, T. Ma, M. S. Cai, Y. Z. Gong, J. Wu, Y. M. Hu, W. -H. Ip, Z. S. Tang, A. A. Xu (2012), The measurements of Chang'E-2 Gamma-ray spectrometer, *Proceedings of International Symposium on Lunar and Planetary Science*, Macau.
55. N. Hasebe, Y. Karouji, N. Yamashita, C. d'Uston, O. Gasnault, O. Forni, S. Kobayashi, M. Hareyama, T. Okada, R. C. Reedy, M. Kobayashi, E. Shibamura, K. J. Kim, **M. H. Zhu** (2011), Elemental composition of the Moon observed by Kaguya gamma-ray spectrometer, *Asia Oceania Geosciences Society*, Taipei, Taiwan.
56. **Zhu M. -H.**, T. Ma, J. Chang, W. -H. Ip, Z. S. Tang, A. A. Xu (2011), First look of Chang'E-2 gamma-ray spectrometer observations, *Asia Oceania Geosciences Society*, Taipei, Taiwan.
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