New frontier of Earth, Space and Life Sciences pioneered by the Science-oriented developments of innovative mass spectrometer

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So far, various mass spectrometers, which can determine elemental abundance, isotopic composition and molecular weight of macromolecules, have greatly contributed to understanding of the Earth, Space and Life sciences. Above all, high-precision isotopic measurements of natural samples using sensitive mass spectrometers provide us an important clue to decipher the origin and evolution of the Earth and Planetary system. On the other hand, it is well known that many unknown/unresolved scientific issues are still remained because of technical restrictions of “general-purpose” commercially-available mass spectrometers. Therefore, “science-oriented” development of mass spectrometer has been highly desired.
At the conference, we will talk about an on-going Interdisciplinary research project (new development for the Life-Sciences), our recent remarkable finding based on the on-site mass spectrometers (“Biogenic oxygen from Earth transported to the Moon by a wind of magnetospheric ions”, Terada et al. Nature Astronomy 2017), and the future scope of this project.

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