

## Research of derivation of lightning electrical characteristics using by lightning irradiance observed from ISS

\*Yasuhide Hobara<sup>1</sup>, Katsunori Suzuki<sup>1</sup>, Kanata Kakinuma<sup>1</sup>, Mitsuteru Sato<sup>2</sup>, Yukihiro Takahashi<sup>3</sup>, Toru Adachi<sup>4</sup>, Tomoo Ushio<sup>5</sup>, Zenichiro Kawasaki<sup>5</sup>, Takeshi Morimoto<sup>6</sup>, Atsushi Yamazaki<sup>7</sup>, Makoto Suzuki<sup>7</sup>, Linscott Ivan<sup>8</sup>, INAN Umran<sup>8</sup>

1. Graduate School of Informatics and Engineering, The University of Electro-Communications, 2. Department of CosmoScience, Hokkaido University, 3. Department of CosmoSciences, Graduate School of Science, Hokkaido University, 4. The Meteorological Satellite and Observation System Department, Meteorological Research Institute, 5. Information and communication engineering department, Osaka University, 6. Kindai University, 7. Institute of Space and Astronautical Science / Japan Aerospace Exploration Agency, 8. Department of Electrical Engineering, Stanford University,

In this paper, we compare lightning irradiance / lightning integral irradiance observed from GLIMS (Global Lightning and sprlte MeasurementS on JEM-EF) mission onboard ISS with current moment / lightning charge moment derived by ground based observation of ELF magnetic field observation, and verified the accuracy of the derived values. As a result, we got the high correlation (correlation coefficient > 0.76) between two values. We think that lightning charge moment, which is the energy of lightning discharge, estimated by only optical observation from space.

Keywords: International Space Station, GLIMS, ELF, Lightning charge moment