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

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In this paper, we compare lightning irradiance / lightning integral irradiance observed from GLIMS (Global Lightning and sprite 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