

Development of airglow and lightning/sprite camera onboard EQUARS

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Sprites and elves are optical emissions occurring in the middle and upper atmosphere when the strong cloud-to-ground or intra-cloud discharges take place. In order to investigate their global activities and effects on the atmosphere quantitatively, optical observations from space is essential. INPE in Brazil plans to launch a small satellite named EQUARS (weight: 110 kg) with 8 scientific equipments for the purpose of atmospheric observation. ALIS is the CMOS camera to image OH airglow and sprites/elves in the limb direction. Thanks to the small inclination of 20 degree and low earth orbit, ALIS enable us to survey such lightning related phenomena frequently around the equator, where the lightning activity is highest.