

Application of Reusable sounding rocket to TLE studies

Yukihiro Takahashi[1]

[1] Dept. of Geophysics, Tohoku Univ.

TLEs (Transient Luminous Events) are the optical phenomena appearing in the middle and upper atmosphere above thunderstorm activity. Several kinds of TLEs have been found since the first discovery in 1989. It is predicted or estimated that TLEs cause a significant ionization and heating of atmosphere, which may result in serious chemical impact. However, no in-situ measurement of TLEs was carried out since the duration of the TLEs are very short (less than several tens of ms) and the predictions of occurrence in time and place are extremely difficult. The reusable sounding rocket, which can change the trajectory easily and hover in the same place, would be an ideal tool for TLE studies.