

## Relationship between the charge moment change of parent CG and the duration of sprites' light emission

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In the period of a combined aircraft and ground-based campaign supported by NHK Cosmic Shore project, June 27 to July 10, 2011, an airborne high-speed camera captured over 60 TLE events at a frame rate of 8000 /sec or 10000 /sec. In addition, we make use of waveform data recorded by the global ELF observation network, (GEON), operated continuously by Hokkaido University. Based on ELF waveform data, we can estimate charge moment changes (CMCs). Using GEON and NLDN data, relationship between the charge moment change / the peak current and the duration of sprites light emission was examined in detail. It is found that there exists a good correlation between the charge moment change of parent CG and the decay time of the sprites light-curve with  $R^2 \sim 0.72$ .