

## The relation between summer sprites and lifecycle of parent storm system: 2013 Mt. Fuji observation campaign

SUZUKI, Yuko<sup>1\*</sup> ; KAMOGAWA, Masashi<sup>1</sup> ; SUZUKI, Tomoyuki<sup>1</sup>

<sup>1</sup>Dpt. of Phys., Tokyo Gakugei Univ

An isolated-mountain observation was conducted at the summit of Mt. Fuji (3776 m), Japan, to detect transient luminous events (TLEs) off the coast of the Boso Peninsula, Chiba, and the east coast of Japan. Many TLEs caused by energetic positive cloud-to-ground (+CG) lightning occurred in this region during the summer of 2013. Since the summer clouds covering the ground and ocean are usually located below the summit. A 360 degrees view from the isolated mountain along with low atmospheric pressure and unpolluted air over the summit is expected to facilitate the observation of TLEs and their vivid color images, respectively. We detected several distant TLEs with light-sensitive black-and-white CCD cameras and a color single-lens reflex camera. We investigate the relationship among sprites, the parent +CG lightning and the parent storm systems. Six sprite events were associated with +CG lightning and their estimated amplitude was  $156 \pm 76$  kA (89 - 312 kA). Sprites appeared  $41 \pm 30$  ms after +CG lightning. The +CG lightning with sprites were located in the stratiform precipitation region.

Keywords: Sprite, Parent lightning, Thunderstorm