

Upward Electrical Discharges from Thunderstorm Top

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In our current knowledge, both blue jet [*Wescott et al.*, 1995; 1998; 2001; *Pasko et al.*, 2002] and gigantic jet [*Su et al.*, 2003; *Hsu et al.*, 2004; *van der Velde et al.*, 2007] are upward electrical discharge emerging from thunderstorm tops. Unlike sprites or elves, they are believed to be induced by electrostatic field or electromagnetic waves generated in lightning activities, jets make directly contact with their parent clouds. After the discoveries of jets from ground and airplanes campaigns, several models have been proposed to account for their physical characteristics [*Pasko et al.*, 1996; *Sukhorukov et al.*, 1996; *Razier et al.*, 2007]. However, several unanswered questions including their generating mechanism, propagating velocities, and the associated sferics still exist which indicate that further efforts in observations and modeling are still needed in clarifying the jet phenomena. In this paper, we present the most current jet observations from ISUAL (The Imager of Sprites and Upper Atmospheric Lightning) onboard FORMOSAT-2 satellite. Some unresolved issues on the jet phenomena will also be addressed.