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The triangulation of the gigantic jets observed by the optical observation network in Taiwan

Alfred B. Chen (1), Chien-Fong Huang (2), Kang-Ming Peng (2), Han-Tzong Su (2), and Rue-Ron Hsu (2)

(1) Institute of Space and Plasma Sciences, National Cheng Kung University, (2) Department of Physics, National Cheng Kung University

The optical triangulation of sprites and elves by the multiple sites has been done in the past decades, but the similar observation on gigantic jets has never been reported yet. A ground optical observation network consisting of four stations at Kimen, Penghu, Tainan, and Taitung (from west to east) has been established in Taiwan since 2012. Each station equipped with two sets of Watec low-light sensitivity cameras, and the elevation and azimuth of the observation can be fully remote controlled to point toward the on-going convection system in the vicinity of Taiwan. In summer 2014, more than 6 gigantic jets were captured by at least two stations successfully. The triangulation and ULF sferics of these interesting events provides an excellent chance to explore the spatial and temporal evolution of the jets in different phases. In this presentation, this ground observation network will be introduced, the detail evolution of the recorded gigantic jets is presented. The preliminary result implies that the jets may not pop from the cloudtop straightforwardly, and some twists occur during the propagation of the jets. A more complicated analysis of the tomography for the advanced triangulation will be mentioned, too.