



Preliminary results of TLE observations from Hungary in 2007 supported by LINET

J. Bór (1), Y. Hobara (2), G. Sători (1), M. Hayakawa (3) and H.D. Betz (4)

(1) Geodetic and Geophysical Research Institute of the HAS, Sopron, Hungary, (2) The University of Sheffield, Sheffield, United Kingdom, (3) The University of Electro-Communications, Tokyo, Japan, (4) Physics Department, University of Munich, D-85748 Garching, (jbor@ggki.hu / H-9401, PoB. 5.)

Transient luminous events (TLEs) were observed in Central Europe for the first time from Sopron [16.58E, 46.68N], Hungary, during July and August, 2007. Altogether 100 TLEs were captured in six nights, mainly red sprites, several sprite halos and one blue jet. A Watec 902H2 Ultimate camera with Computar 8mm (45°H/34°V FOV) F08 aspheric lens was manually directed above the active regions of thunderstorms in distances of about 500-600 km. The direction of the storms with respect to the observation site was found from the lightning locations provided by the LINET lightning detection network. Schumann resonance transients from sprite producing lightning flashes were detected at NCK station [16.72E, 47.63N], Hungary as well as at Moshiri station [142.3E, 44.4N], Japan. Causative +CG flashes could be verified from LINET data. Charge moment changes (CMC) of the parent strokes of TLEs were determined from ELF data in Moshiri and found to be in the 380-1440 Ckm range. In the talk, the observation site is described, examples from the variety of the observed sprites (carrot, column, wishbone, dancing), sprite halos and the jet are shown, peak current and CMC statistics of the TLE producing lightning flashes are presented and future research is discussed.