3rd VERSIM Workshop 2008 Tihany, Hungary 15th – 20th September 2008

TLE events observed at AGO and their ELF counterparts. Influence of SPE on Schumann resonance parameters

Adriena Ondrášková, Sebastián Ševčík, Pavel Kostecký, Juraj Tóth and Róbert Kysel

Comenius University, Bratislava, Slovakia

Several Transient Luminous Events (TLE's) have been observed at Astronomical and Geophysical Observatory of Comenius University (AGO) near Modra (western Slovakia) by means of automated all-sky TV system and UFOCapture software. For most cases, their electric field component counterparts in Schumann resonance frequency (ELF) band were recorded as well. Some of these TLE's were simultaneously detected (also by optical method) at Nagycenk observatory in Hungary (at 92 km straight distance from AGO). Corresponding ELF data were processed by Time-Frequency Analysis (TFA) method and characteristic signatures typical for Schumann resonance (SR) transient events were clearly resolved. Examples of mutually synchronized optical and ELF phenomena are shown and connections between optically observed sprite-like events and ELF transient events are discussed.

Moreover, inspired by other authors' results, influence of Solar Proton Events (SPE) on SR parameters in midlatitudes has been looked for in AGO data.