

トウィーク空電0次モード発生率の地方時・季節依存性

Local time and seasonal dependence of occurrence rate for the zero-order mode of tweek atmospherics

*大矢 浩代¹、荒木 徹、塩川 和夫²、三好 由純²、菊池 崇²

*Hiroyo Ohya¹, Tohru Araki, Kazuo Shiokawa², Yoshizumi Miyoshi², Takashi Kikuchi²

1.千葉大学大学院工学研究科、2.名古屋大学宇宙地球環境研究所

1.Graduate School of Engineering, Chiba University, 2.Institute for Space-Earth Environmental Research, Nagoya University

Tweek atmospherics are VLF/ELF electromagnetic waves originated from lightning discharges and propagate in the Earth-ionosphere waveguide for long distances. So far, there are few studies for the zeroth-order mode of the tweeks. The preliminary reverse impulse (PRI) electric field of the geomagnetic sudden commencement (SC) is transmitted by the TM₀ mode waves propagating at the speed of light in the Earth-ionosphere waveguide (Kikuchi et al., 1978; Kikuchi and Araki, 1979). In this study, we investigate the local time and seasonal dependence of the tweek zero-order mode to understand the characteristics of the zero-order mode. For statistical analysis, we developed the automatic detection procedure for the zero-order mode. In this session, we will discuss the results for the tweek zero-order mode in detail.