

Propagation and direction finding of Schumann resonances in relation with the global thunderstorm activity

Tsuyoshi Hayashida[1], Yasuhide Hobara[2], Natsuko Iwasaki[3], Masashi Hayakawa[4]

[1] Univ. of Electro-Comm./ Dept. of Electronic Eng., [2] EORC, NASDA, [3] Dept. of Electronic Eng., Univ. of Electro-Comm., [4] Univ. Electro-Comms.

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The lowest frequency components of the impulse like a lightning discharge can circumnavigate the globe several times and create a resonance phenomenon inside the earth-ionosphere cavity; so called Schumann resonances (SR). SR magnitude show diurnal and seasonal variations mainly due to the global thunderstorm activity change. SR are not a purely resonant phenomenon and have propagating modes because of the poor conductivity and day-night asymmetry of the height in the ionospheric height. In this study, we determine the source bearing using two kinds of analysis direction finding and distance estimation in SR components observed at Moshiri for April 8 1999. As a result, we successfully obtained the arrival direction and reasonable distance from the three main thunderstorm active regions.