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Radio-radar and optical observations of cesium releases in the upper atmosphere

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Abstract

A series of rocket experiments in which cesium ionized clouds were artificially produced by evening twilight chemical releases in the upper atmosphere has been conducted at Kagoshima Space Center, University of Tokyo. In these rocket series, simultaneous radio-radar and optical behaviors of artificial cesium clouds have been successfully investigated. This study indicates the utility of combined radio-radar and optical observations and presents the results to estimate the chemical yield, diffusion features in the magnetic fields and drift motions due to the ionospheric winds.

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