

[EE] Evening Poster | P (Space and Planetary Sciences) | P-EM Solar-Terrestrial Sciences, Space Electromagnetism & Space Environment

## [P-EM10]Coupling Processes in the Atmosphere-Ionosphere System

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Vertical coupling mechanisms throughout the whole atmosphere are critical to understanding the near Earth space environment, as well as its sensitivity to the solar, geomagnetic, and atmospheric drivers. This international session focuses on physical/chemical processes occurring in the mesosphere, thermosphere, and ionosphere (MTI) from both the poles to the equatorial region. Both quiet and disturbed states in response to lower atmospheric forcing or solar forcing are important for understanding the MTI system and its coupling to other regions. We invite presentations of observations and observational concepts with ground-based and/or space-borne instruments, theoretical studies, numerical simulations, and development of data analysis systems for various kinds of temporal and spatial variations in MTI system.

## [PEM10-P15]Relation of sporadic E-layer parameters to spread-F generation in the nighttime low- and mid-latitude ionospheres during solar minimum

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In this work, we examine the relation of Es-layer parameters to spread-F generation in the nighttime ionospheres at low- and mid-latitudes during 1996. The data of Es-layer parameters and spread-F are obtained from the Chungli (24.9°N, 121.2°E) and Kokubunji (35.7°N, 139.5°E) ionograms. The Es-layer parameters include foEs (critical frequency of Es-layer), fbEs (blanketing frequency of Es-layer), and  $\Delta f$  ( $=foEs-fbEs$ ). After the pre-midnight and post-midnight data are classified by seasons, the Es-layer and spread-F events are categorized into each frequency interval of Es-layer parameters. At Chungli, an increasing trend is found in post-midnight of all three seasons, for the occurrence probabilities of spread-F versus foEs. For the occurrence probabilities of spread-F versus  $\Delta f$ , the increasing trend also exists in pre-midnight of the J-months and in post-midnight of all seasons. The increasing trends can be found in the results at Kokubunji, for the occurrence probabilities of spread-F versus foEs and  $\Delta f$ . The increasing trends indicate that polarization electric fields generated in Es-layer can assist to produce spread-F, through the electrodynamical coupling of Es-layer and F-region. On the other hand, the results of fbEs show that fbEs is irrelevant to the spread-F generation.