



## **Analysis of the delayed ionospheric response to solar EUV variability**

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Physical and chemical processes in the ionosphere are driven by complex interactions of the neutral and ionized atmospheric constituents with the solar radiation. The ionospheric plasma is in particular sensitive to solar EUV and UV variations with a time delay of roughly one day. This delay is assumed to be related to thermospheric transport processes from the lower ionosphere to the F region. Therefore, an analysis and interpretation of the delay could provide new insight into the coupling between thermosphere and ionosphere, which is of interest for applications relying on precise ionospheric weather forecasts. Here we present a detailed analysis of the ionosphere delay in high temporal, spatial and spectral resolution. We show results for various dependencies of the delay, including geographic/geomagnetic location, season, local time and long term trends in the solar radiation conditions, such as solar activity changes during the solar cycle.