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Relative importance of the quasi 27-day solar rotation period on foF2 and foE

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In most empirical ionospheric models the dependence on solar activity is described by highly averaged indices. The widely used CCIR and URSI models for the F2 peak frequency (foF2), for example, are based on the 12-month running-mean of sunspot number. These annually averaged indices describe well the dominant 11-year solar cycle variation seen in ionospheric observations. But lower period variations are observed as well, e.g., the 27-day solar rotation. In this study we investigate periodicities that can be found in ionospheric parameters. We employ a method of spectral analysis to foF2 and foE data from 20 ionosonde stations . Our results confirm that the 27-day periodicity is clearly manifested in both parameters. But this periodicity is much less pronounced than seasonal and solar cycle variations. We also analyze the time delay between the 27-day variation as it is seen in solar parameters/indices and in ionospheric parameters and its dependence on longitude.