Variations of the ionospheric peak electron density over Wuhan

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This work is devoted to the statistical studies of the ionospheric variability through the peak electron density NmF2 over Wuhan during the period 1996-2004. To assess to what degree the observed NmF2 variability may be attributed to its annual and semiannual variations, the short-term solar EUV flux (26.0-34.0 nm) and meteorological influences in each year, we apply the normalized standard deviation (n.s.d.) value method, which can provide a reasonable average estimate. Our findings are as follows. Under quiet geomagnetic condition ($K_P \leq 2$), the n.s.d. variation associated with the 81-day mean solar EUV flux is about 1.85%, except the n.s.d. variation is about 6.04% during 2001-2003, and the n.s.d. variation related with the day-to-day solar EUV flux, the annual and semiannual variations, and the meteorological influences is about 0.43%, 23.93%, 34.96%, respectively.