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On geoeffective solar variability signature in Northern temperate climate zone at specific atmospheric levels

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Solar signals at Schwabe (11 years) and Hale (22 years) solar cycles timescales in the reanalyzed temperature data from NCEP/NCAR database for Northern temperate climate zone at specific levels in troposphere and stratosphere will be discussed by means of long-term statistical correlations between stratospheric and tropospheric temperature and solar variability proxies (indices). It seems that the 11-year signal is more pronounced in the troposphere, while the 22-year signal becomes important in the stratosphere. In this study features of these signals will be also discussed on several continental scales of the Northern temperate zone. The seasonal dependence of the long-term correlations is discussed as well.