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# Space climate. On geoeffective solar activity during Maunder and Dalton grand minima

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The study of geomagnetic phenomena known as geomagnetic activity has long contributed to progress in solar-terrestrial science. The long geomagnetic time series recorded at geomagnetic observatories have provided means to characterize the Sun-Earth interaction at times prior to space era, via geomagnetic indices (e.g. aa, going back to 1868). For times prior to geomagnetic observatory era, we looked for information at the main geomagnetic field model gufm1 (1590-1990) (Jackson et al., 2000). We show first the presence in the time series provided by this model of a solar-activity-related signal, of 10-20 nT. Then the characteristics of this signal for times to 1600 are discussed. A significant geomagnetic activity at the 22-year time scale is found during the the Maunder and Dalton minima. The signal we discuss also corroborates the so-called excursions in the reconstructed sunspot number based on 10Be determinations on polar ice cores (Usoskin et al., 2003).