



Long-term trends in geomagnetic daily variations

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Long-term changes in the magnetic environment of the Earth are of interest to those studying space weather and climate change. To this end we examine changes in daily variation as derived from hourly mean values from 15 geomagnetic observatories around the world with records extending back to 1900. For the period after 1947 we, not surprisingly, find correlations with the F10.7 flux density, a solar irradiance proxy. We also find a long-term increase in the amplitude of the daily variation since 1900 and here examine a more robust technique of removing the solar cycle signal. This work demonstrates the possibility of using long-term geomagnetic data as a proxy for processes in the upper atmosphere.