



Geomagnetic and solar wind driven signatures in the temperature and zonal wind re-analysis data in Antarctica

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Recent experimental results suggest that changes in the atmospheric conductivity, due to energetic electrons precipitation, as well as high latitude potential variations, both associated to geomagnetic activity driven by the solar wind, can affect the atmospheric dynamics. In this work we present an investigation of the correspondence of temperature/zonal wind velocity fluctuations in the stratosphere and troposphere with geomagnetic ULF power fluctuations and polar cap potential difference during the solar cycle 23. Daily values of the ERA-Interim temperature and zonal wind over Antarctica are compared with the daily geomagnetic ULF power, in the Pc5 (1-7 mHz) and Pc1-2 (100 mHz-1 Hz) frequency ranges, at Terra Nova Bay (Antarctica, corrected geomagnetic latitude $\lambda \sim 80^\circ\text{S}$) and with solar wind data.