



On the long-term evolution of the PC index

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A number of geomagnetic indices have been designed to describe the evolution of various current systems developing in the magnetosphere and ionosphere as a consequence of the interaction of the solar wind and heliospheric magnetic field. The Polar Cap (PC) index, a proxy for the electric field and convection in the polar ionosphere, has been only recently introduced (1980). We attempt here to reconstruct the PC index back to 1870, based on a correlation comparison of several geomagnetic indices (aa, AE, Dst, PC) that show common long-term behaviour, characterised by solar activity signature at Hale and Gleissberg cycles time scales.