

## **EXTRACTING LONG-TERM TRENDS IN GEOMAGNETIC DAILY-VARIATIONS AND INDICES**

Brian Hamilton, SUSAN MACMILLAN

British Geological Survey, Edinburgh, UK, email: [bham@bgs.ac.uk](mailto:bham@bgs.ac.uk)

Long-term changes in the Earth's magnetic environment are of interest to those studying space weather and climate change and could act as proxies for processes in the upper atmosphere and the Sun-Earth environment. To this end we examine changes in the amplitudes of the geomagnetic daily variation and activity indices as derived from geomagnetic observatories around the world with records extending back to 1900. One obstacle to extracting long-term trends is the dominant role of the solar cycle in the behaviour of these quantities. Since the solar cycle length is variable, care must be taken when removing its effect to reveal longer-term trends. We compare two different techniques for removing the variable solar-cycle signal: a method developed by Lockwood and Fröhlich (2007) that uses a range of running mean periods; and a simple wavelet analysis. We also compare these techniques to a simple 11-year running mean and comment on the robustness of the results.

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Brian Hamilton, British Geological Survey, West Mains Road, Edinburgh EH9 3LA, UK,  
e-mail: [bham@bgs.ac.uk](mailto:bham@bgs.ac.uk)