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## Correlation between Solar Semi-Diameter and Geomagnetic Time Series

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### ABSTRACT

We study the correlation between geomagnetic and solar semi-diameter measurements made at two of our ground stations (Vassouras and Rio de Janeiro, Brazil). The study comprises the period from March 1998 to November 2003, for which daily means were compared. Both series describe correlated, but different, phenomena and, consequently, before a correlation study, an individual analysis of each data set was necessary. One of the motivations of the present work was to further explore the correlation with lags found between the solar semi-diameter and some solar activity estimators, which supports the probabilistic forecasting of the solar activity and hence, of the solar driven geomagnetic variations.

### KEYWORDS

Solar Diameter; Geomagnetic Series; Correlation; Time Series

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