

## Secular variation modeling at Trelew Magnetic Observatory (Chubut, Argentina)

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**A b s t r a c t:** In this study we analyse the nocturnal reference level of total magnetic intensity at Trelew Magnetic Observatory in the interval 00 - 03 UT hours using 1-minute digital records of Q days from 1993 to 1999. Fitting these data with the 2<sup>nd</sup> degree polynomial, we propose a model of the geomagnetic field secular variation at the observatory. The residual time series are studied by various methods of the spectral analysis. A linear additive harmonic model is applied to represent periodic variations in each residual time series. Using this model, we were able to obtain the amplitudes of the annual and semiannual variations. The daily mean values for the first three months of the year 2000 were successfully forecasted.

**Key words:** secular variation, annual and semiannual variations, nocturnal reference level, Q-days

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