



## Geomagnetic jerks as chaotic features of our planet

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Previous studies proved that the geomagnetic field is, in average, chaotic and after a time interval of around 6-7 years no reliable prediction can be made. This field is also ergodic, so time analyses can substitute the more difficult phase space analyses. In this study, we have analyzed the temporal behavior of the time of predictability over the last 400 years by means of Gufm1 model, finding periods where this value is lower than the surrounding values. We concluded that the periods when the geomagnetic field is less predictable (more chaotic), corresponds to jerk occurrence dates: this has been confirmed with the good agreement with already known jerks. Also, some periods where the field is more predictable (less chaotic) have been found. Considering the same origin of a geomagnetic jerk phenomenon, e.g., mainly torsional oscillations in the fluid outer core, the effects on the Earth's surface may be different from place to place. This is exactly the aspect we want to investigate in more detail, studying the behavior of the magnetic field secular variation in different locations of the Earth's surface in specific epochs (with clear or not evident jerk).