

GEOMAGNETIC JERK DETECTION IN THE POGO SCALAR DATA

Yasmina Yahiat¹, MOHAMED HAMOUDI¹, Mioara Manda²

1. University of Sciences and Technology Houari Boumediène, FSTGAT, Geophysics

Department, Bab-Ezzouar, Alger, yasminayahiat@yahoo.fr, hamoudi@ipgp.jussieu.fr

2. Deutsches GeoForschungsZentrum, GFZ, Potsdam, Germany, mioara@gfz-potsdam.de

The linearity of the secular variation of the Earth's magnetic field is irregularly broken by sudden changes in its trend. These changes are known as geomagnetic jerks. Detecting these events in the temporal variations of the magnetic field components continues to be an exciting topic, mainly recently when their investigation rely not more only on observatory data, but as well as on measurements provided by satellites. We have also been interested by these magnetic events, and one of the central aims of our work has been to determine whether the satellite scalar data, obtained in the sixties and early seventies are able to reveal the existence of such a geomagnetic jerk, previously detected around 1969, in observatory annual or monthly means. For this purpose, we have used available OGO2, OGO4 and OGO6 satellite intensity data covering the period 1965-1971. Another motivation of re-processing and analyzing these old satellite datasets has been to better estimate their role in the global core field modeling, especially in describing the secular variation. Our results indicate that these ancient magnetic satellite datasets contain valuable information to characterize the secular variation over the time-span they are available, and allow to detect the geomagnetic jerk around 1969.

Geomagnetic jerk, scalar data, POGO

Yasmina Yahiat, University of Sciences and Technology Houari Boumediène, FSTGAT, Geophysics Department, Bab-Ezzouar, Alger, Algeria, Tel/Fax (213)21247647, e-mail: yasminayahiat@yahoo.fr.