



Contribution ID: 141 Contribution code: S10-MG-209

Type: **Poster presentation**

## Preliminary results on the multifractal nature of the main geomagnetic field

*Monday, 29 August 2022 18:00 (1h 30m)*

The external geomagnetic field is known to exhibit multifractal behavior as deduced by analyzing the extensive magnetic field time series. Usually the internal magnetic field is not discussed because its changes occur with a much longer time scale. However, one can make use of the existing palaeomagnetic measurements of the dipolar (internal) field that offer a broad view on the geological past. We have analyzed two series that offer a view of the magnetic dipole for the last 4 million and 2 million years respectively. The multifractal nature is determined by analyzing the Hurst exponent through the Multi Fractal - Detrended Fluctuation Analysis method. Also, we have studied the time evolution of the Hurst exponent for each series. The respective discussions are made for each case.

**Primary authors:** Prof. PRENGA, Dod (Physics Department, Faculty of Natural Sciences, University of Tirana); Dr PEQINI, Klaudio (Physics Department, Faculty of Natural Sciences, University of Tirana); Dr OS-MANAJ, Rudina (Physics Department, Faculty of Natural Sciences, University of Tirana)

**Presenter:** Dr PEQINI, Klaudio (Physics Department, Faculty of Natural Sciences, University of Tirana)

**Session Classification:** Poster session

**Track Classification:** Scientific Sections: S10 Meteorology and Geophysics