



## **High-frequency magnetic fluctuations: Greenland and CARISMA comparison**

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Rapid magnetic fluctuations are closely linked to several space weather phenomena. Detailed study of the latitudinal distribution of these fluctuations will improve space weather forecasting. This is especially relevant in the arctic regions, where commercial activity has ramped up recently. The new Fractional Derivative Rate (FDR) method has been successfully tested with magnetometer data from Greenland. FDR gives the coverage of geomagnetic fluctuations for a given day over a certain  $dH/dt$  threshold, and it shows latitudinal differences effectively. Furthermore, it allows efficient use of high time resolution data for the study of time series in the scale of years. Similar study using the Canadian CARISMA network has been undertaken using high time resolution measurements and extensive latitudinal coverage of stations. We study the latitudinal distribution of geomagnetic fluctuations using the  $|dH/dt|$  averages, FDR calculations as well as peak detection. Utilizing data from several years, we study both the seasonal as well as UT variation of the fluctuations.