

Spherical Elementary Current を用いた SC 極電流の解析 — 2013/2015 年 St. Patrick Day の SC

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Use of Spherical Elementary Currents for Analysis of SCs observed on 2013 and 2015 St. Patrick's Day storms

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Araki's model of geomagnetic sudden commencements (SCs) proposes a successive appearance of the DPpi- and DPmi-current system. By applying the Spherical Elementary Current Systems (SECS) to SC data from more than 100 ground stations we confirmed the existence of the proposed current systems for two fairly large SCs occurred on 2013 and 2015 St. Patrick's Day. The DPpi current system is converted to DPmi-current system reversing polarity during the first couple of minutes of the SC. It is the first time that SECS have been used for this purpose.

SC のモデル (Araki,1994) は, DPpi と DPmi の二つの電流系が引き続いて現れることを提起している. ここでは, SECS(Spherical Elementary Current System) と 100 以上の地上観測点データを用いて, この二つの電流系の生起を確かめた. それらは電場方向を逆転させながら連続して生じている. SECS を SC の解析に用いたのは, これが初めてである.