

## **An hypothesis for a fully reversing geomagnetic field generated by electric currents across the CMB**

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The rapid reversibility, polarity bias variation and long periods without reversals are among many constraints now to be faced by models for generating the geomagnetic field. The likely cigar shape of the inner core suggests growth from cool polar downflow in the outer core. On the other 'side', the D" zone clearly exercises important control upon the field; the westward drift disappears below the Pacific, corresponding to a highly melted zone at the bottom of D"; the 'Americas' polar path is repeatedly taken during reversals. High-pressure work continues to bring surprises about the properties of possible D" materials. Westward drift of poleward-directed core convection flows may induce trans-CMB electric currents thermoelectrically or by the action of freezing potentials due to the alternate deposition and erosion of a layer. I show how the resulting latitudinal succession of alternately directed potentials would produce current loops which rapidly switch in direction as the circumferential spacing varies. The model links well with other constraints.