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Transitional VGPs and the development of our understanding of geomagnetic reversal

K.A. Hoffman

Cal Poly State University and University of Wisconsin, Madison, USA

(khoffman@calpoly.edu / Fax: 1-805-756-2435 / Phone: 1-805-756-2100)

Given the paucity of available paleomagnetic transition records and the practically impossible task of determining—with absolute synchronicity of data—global field structure throughout a reversal, the geographic construct of paths of the virtual geomagnetic pole (VGP) has been for decades the display method of choice. When multiple records of a particular reversal are available VGP paths aid us, through a global visualization, to delimit the harmonic content of the transitioning field. And when back-to-back records are on hand, VGP paths help us to understand the degree of systematics present in the reversal process. This talk will follow the evolution of our understanding of geomagnetic reversal gleaned from analyses of VGP paths, from the time the first set of multiple records became available to current debates regarding preferential field behavior, degree of control by the lower mantle, and requirements for a successful dynamo reversal.