



## **Reconstructing the global geomagnetic field during the Laschamp excursion**

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The Laschamp geomagnetic excursion, which took place approximately 40 kyrs ago, is among the best examined features of past geomagnetic field variation. It has been suggested previously that the field geometry during this transitional field state is rather simple. Strikingly similar patterns of transitional field behavior are observed in many geographically distributed sampling locations. Using a Bayesian inversion method the global geomagnetic field evolution during the Laschamp excursion is reconstructed. The total variational power at the core-mantle boundary is minimized under paleomagnetic constraints. Several high quality paleomagnetic reversal records are combined into a single excursion scenario without assuming an a priori common age model. By iteratively applying the inversion procedure to geographically distributed records, a low degree global field evolution model is constructed which then is tested against all other available paleomagnetic records of the Laschamp excursion. The predictions from the model are compared to paleomagnetically observed characteristics like transitional VGP movements and paleointensity variation.