



Paleomagnetic and geochronologic study of the Chaîne des Puys, France

Carlo Laj, Hervé Guillou, Catherine Kissel, Sebastien Nomade, and Camille Wandres

Laboratoire des Sciences du Climat et de l, Unité Mixte CEA-CNRS-UVSQ, Gif-sur-Yvette Cedex, France
(carlo.laj@lsce.ipsl.fr, 33 1 6982 35 68)

We report on a new paleomagnetic and geochronologic study of the Chaîne des Puys volcanic province (Massif Central France).

A number of already reported sites and some new ones have been extensively sampled and carefully studied using both af and thermal demagnetization. Paleointensity studies, using the Thellier-Thellier technique have also been conducted.

Many of the sites (including those with intermediate directions, one of which is reported here for the first time) have been dated by both $^{40}\text{Ar}/^{39}\text{Ar}$ and unspiked K/Ar techniques and yield dates often significantly different from previously published evaluations obtained by thermoluminescence dating.

Although the measurements are still in progress, the first results confirm the age of the Laschamp excursion at about 41 ka (Guillou et al. 2004; Singer et al., 2009) and point to a short duration of this geomagnetic event, in agreement with previous results from sedimentary sequences (Laj et al., 2000) and ice cores (Svensson et al., 2006), but in sharp contrast with a recent suggestion that "the Laschamp excursion most likely spanned the interval between 33.3 and 39.8 ka" (Plenier et al. 2007).

The short duration of the Laschamp excursion makes it possible to use it as a tie point for ice core and sedimentary chronologies.