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The Laschamps event (~41 ka BP) straddles the Mousterian-Châtelperronian transition in Western Europe

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The Laschamps event (named after the type site in the Massif Central in France) was one of the first geomagnetic excursions to be identified, and has since been found in both sedimentary and volcanic contexts across the planet [1]. The event is currently dated to around 41 thousand years ago (ka BP) and had a duration of less than one thousand years ([1] and ref therein). Given its proximity to the estimated disappearance date of Neandertals from the fossil record, the Laschamps event may serve as an important geochronological marker to refine our spatiotemporal understanding of the transition from Neandertals to *Homo sapiens* across Eurasia. The event caused a large increase in atmospheric ^{14}C and is considered by some as a driver of global environmental and evolutionary changes [2-3]. Furthermore, the Laschamps event could help refine the chronologies of sites without organic preservation, allowing these to be linked to sites with well-defined radiocarbon chronologies, potentially on a global level. Historically, the use of the Laschamps event as a geochronological marker in archaeology has been confined to Russia and central Asia, including at Kostenki 14 [4]. In this poster, we present a paleomagnetic study of the archaeological sequence of Quinçay, France, where the Laschamps event is found to straddle the Mousterian and Châtelperronian layers. The cave site of Quinçay, near Poitiers, West-Central France, was discovered in the 1950s and contains a succession of Mousterian and Châtelperronian industries [5]. The site was reopened in 2019. These new campaigns included a detailed paleomagnetic study of the whole stratigraphic sequence. This study found evidence of reversed paleomagnetic signals, indicating a temporary geomagnetic excursion that straddles the Mousterian and Châtelperronian levels that we interpret as the Laschamps event. This identification enhances the geochronological constraints of the chrono-cultural sequence and represents the first identification of the Laschamps excursion in a western European archaeological context. Our results suggest that the final Mousterian and Châtelperronian occupations at Quinçay may have occurred very close to, or possibly during, a one thousand year period around 41 thousand years ago (ka BP). Finally, we discuss the potential implications of these results for the dating of the Châtelperronian and sub-contemporaneous archaeological industries.

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