

A PALAEOMAGNETIC SIGNAL FROM THE LAST INTERGLACIAL

M. J. Sier, J. Peeters, M. J. Dekkers, F. S. Busschers, J. M. Parés, F. Bunnik, W. Roebroeks
m.j.sier@arch.leidenuniv.nl

Faculty of Archaeology, Leiden University, P.O. Box 9515, 2300 RA Leiden, the Netherlands,

Department of Physical Geography, Faculty of Geosciences, Utrecht University, 3584CS Utrecht, the Netherlands,

Department of Earth Sciences, Faculty of Geosciences, Utrecht University, 3584CD Utrecht, the Netherlands

Geological Survey of the Netherlands - TNO, AL-3508, Utrecht, the Netherlands,

Centro Nacional de Investigación Sobre la Evolución Humana, 09002 Burgos, Spain

Until recently, the Eemian (Last) interglacial was generally seen as the terrestrial equivalent of Marine Isotope Stage (MIS) 5e. However, studies of the MD952042 core off the Iberian coast did show a delay of the Eemian in relation to its inferred MIS counterpart and placed the base of the Eemian as defined by the pollenzones within the MIS 5e plateau (Sánchez-Goñi et al., 1999; Shackleton et al., 2002; Shackleton et al., 2003). Other workers argued for placing the base of the Eemian well before the MIS 5e plateau (Beets et al., 2006).

A recent study indicated that the MD952042 delay is even larger than expected, at least in the middle latitudes (Sier et al., 2011). The high resolution sequence from the Neumark Nord 2 (NN2) archaeological site (Germany) provided data that enabled precise terrestrial-marine correlation for the Eemian stage in central Europe. Terrestrial-marine correlation was done by means of the identification of the palaeomagnetic Blake Event. In combination with the local Eemian pollen zones it showed a surprising time lag between the MIS 5e 'peak' in the marine record and the start of the Last Interglacial in this region. If correct, such a large time lag would have consequences for our views on the development of the Eemian in Central Europe and possible North Western Europe. Furthermore, our high-resolution positioning of the Blake Event within a Last Interglacial pollen succession holds potential for the correlation of Last Interglacial archaeological sites on a very fine time scale. Hence, it became imperative to test our reading of the Neumark-Nord 2 data at other Last Interglacial locations. In this contribution, we present results obtained from an onshore orientated (25 meter long) continuous core containing Eemian sediments near the village of Rutten (The Netherlands), in the area of the type locality of the Eemian Interglacial. The core was located on a N-S section across the Eemian River Rhine palaeo-valley, containing Eemian floodbasin deposits consisting of a thick organic-rich clayey sequence. Palynological studies indicate the presence of a complete Eemian pollen sequence, with the Last Interglacial age of the deposits confirmed by Optically Stimulated Luminescence dating. Palaeomagnetic studies on the orientated core indicate the presence of a palaeomagnetic excursion which we have interpreted as the Blake Event. The similarities and differences between the Neumark-Nord 2 and Rutten Gemaalweg record, as well as their possible implications, will be presented in this contribution.

References

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