



Present status of radiocarbon calibration - comparison records based on Iberian Margin sediments

E. Bard, G. Ménot-Combes, F. Rostek

CEREGE and College de France, Europole de l'Arbois BP 80, 13545 Aix-en-Provence cdx 4, France (Fax +33 442971595, email: bard@cerege.fr)

We present updated information and results on the radiocarbon records based on the planktonic foraminifera of core MD952042 from the Iberian Margin. This follows the first study of the radiocarbon record of that core (Bard et al. 2004, *Science* 303, 178; *Quat. Res.* 61, 204). For a calendar age scale, we match the Iberian Margin alkenone SST profile with that of Greenland Summit 18O/16O because both proxies are related to temperature. Except for ages older than 40,000 14C yr BP, Greenland's GISP2 (Meese et al. 1997, *JGR* 102, 26411) and GRIP (Johnsen et al. 2001, *J. Quat. Sci.* 16, 299) chronologies yield broadly similar calendars for core MD952042. The data sets are compared with the INTCAL04 record (Reimer et al. 2004, *Radiocarbon* 46, 1029) and with data sets based on other archives such as varves of Lake Suigetsu (Kitagawa and van der Plicht 1998, *Science* 279, 1187; 2000, *Radiocarbon* 42, 369), speleothems from the Bahamas (Beck et al. 2001, *Science* 292, 2453) and Cariaco sediments (Hughen et al. 2004, *Science* 303, 202). Up to 26,000 cal yr BP, the Iberian Margin data agree within the errors of the other records. By contrast, in the interval between 33,000 and 41,000 cal yr B.P., the Iberian Margin record runs between the Lake Suigetsu and Bahamian speleothem datasets but it agrees with the INTCAL04 coral data and the Cariaco record (Hughen et al. 2004, *Radiocarbon* 46, 1059). We emphasize that the Iberian Margin 14C record remains tentative and preliminary. Indeed, significant progress will result from an improved accuracy for the calendar time scale, backbone of the stratigraphic method. Counting annual layers in the recently drilled ice core (NGRIP 2004, *Nature* 431, 147) will be invaluable for this project.