Auxiliary material for:

The influence of high latitude flux lobes on the Holocene paleomagnetic record of IODP Site U1305 and the northern North Atlantic

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Geochemistry, Geophysics, Geosystems

Introduction

Two figures are included in auxiliary materials:

Figure Fs01. Directional comparison between IODP holes U1305B and U1305C and previously studied Eirik Ridge cores, Hu90-013-013 [*Stoner et al.*, 1995] and MD99-2227 [*Evans et al.*,

2007], over the same time interval. a) Shipboard half core inclinations at 20 mT for the upper 5 mcd of holes U1305B (left) and U1305B (right) [*Expedition 303 Scientists*, 2006, Site U1305]. b) Left, inclination at 20 mT from discrete samples from the core Hu90-013-013 [*Stoner et al.*, 1995]. Right, component inclination from u-channels samples from core MD99-2227 [*Evans et al*., 2007]. c) Shipboard half core 20 mT declination for the upper 5 mcd of holes U1305B (left) and U1305B (right) [*Expedition 303 Scientists*, 2006, Site U1305]. d) Left, declination at 20 mT from discrete samples from the core Hu90-013-013 [*Stoner et al.*, 1995]. Right, component declination from u-channels samples from core MD99-2227 [*Evans et al*., 2007]. Note: The lack of similarity between the new IODP records and the previously studied cores (Hu90-013-013, MD99-2227) is thought to result from minor coring disturbance [see, *Turon et al*., 1999].

Figure Fs02. Squared wavelet coherence (SWTC) between the mean NRM/ARM as in Figure 4a and the ARM measured after 35 mT peak AF demagnetization on age a) and depth b). SWTC between the mean NRM/IRM as in Figure 4c and IRM measured after 35 mT peak AF demagnetization ($IRM_{@35mT}$) on age c) and depth d). Squared WTC are mapped by colors with blue to red indicating increasing values. The 5% significance level against red noise is shown as thick contours. The area of crossed lines marks the cones of influence (COI) where edge effects make the analyses unreliable. The relative phase relationship between the normalized remanence and the normalizer is shown as arrows, with in-phase pointing right, anti-phase pointing left, and normalized remanence leading normalizer 90° pointing straight up. Wavelet analyses were performed using a modified version of MATLAB code [*Torrence and Compo*, 1998; *Grinsted et al*., 2004].

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