

Appendix F

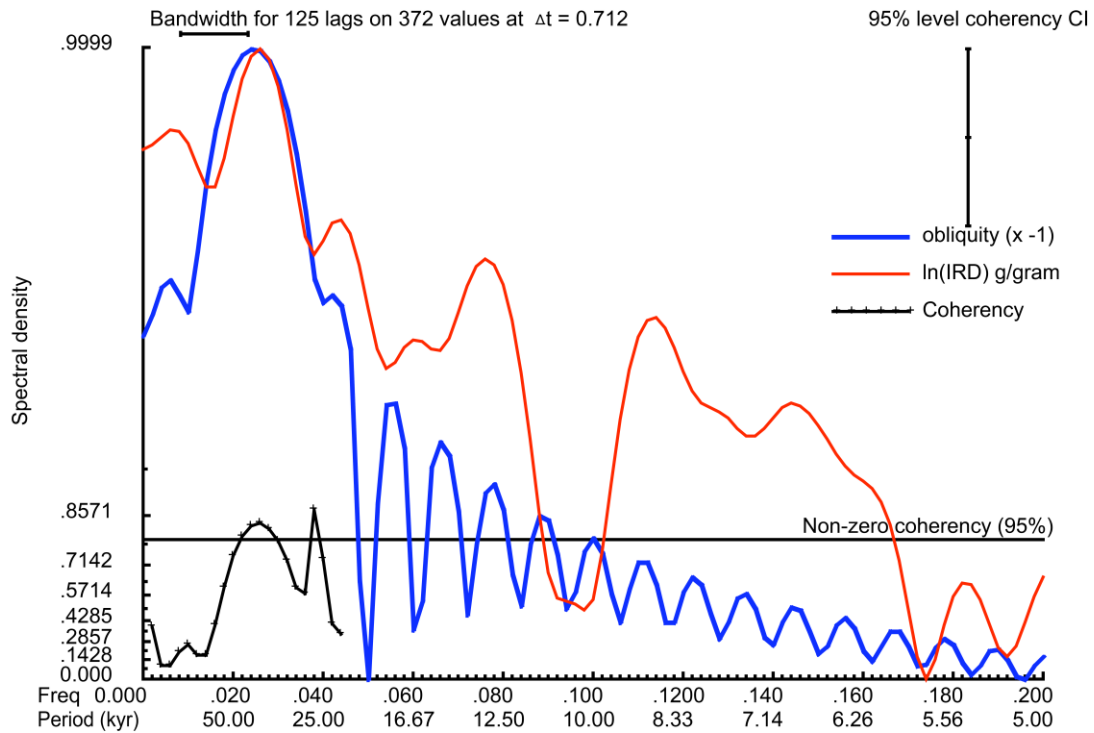


Figure F1. Cross-spectral analysis between obliquity and $\ln(\text{IRD})$ at core site MD02-2588, over the interval 0-265 kyr, performed using ARAND software [Howell, <http://www.ncdc.noaa.gov/paleo/softlib/arand/arand.html>, 2001]. IRD data are originally published in *Marino et al.* [2013] and *Simon et al.* [2013]. Because of the non-Gaussian distribution of the IRD data, we normalized the IRD record for cross-spectral analysis by taking its natural logarithm. IRD data were then interpolated to an even age scale ($\Delta t = 0.712$ kyr). Obliquity was computed using Analyseries (*Paillard et al.* [1996], with astronomical solutions of *Laskar et al.* [2004]), and was multiplied by -1 so that obliquity minima coincide with $\ln(\text{IRD})$ maxima. Obliquity and $\ln(\text{IRD})$ are coherent at the 95% confidence interval in the obliquity band, with obliquity minima leading $\ln(\text{IRD})$ maxima by $2.9 (\pm 2.8)$ kyr.