

## ***Interactive comment on “An astronomical correspondence to the 1470 year cycle of abrupt climate change” by A. M. Kelsey et al.***

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Received and published: 30 October 2015

I would like to thank you for your interest. There is no disagreement that there is a debate on the 1470yr cycle, and the question of whether it is well-established or not is one of semantics. Similarly, you (Wolff et al., 2010:2828) used its well-established nature in literature as a motivation to understand the likely causes of the DO cycles (Wolff et al., 2010:2831), describing its 30yr history associated with the “favoured” view of this cycle. This long tradition in the literature, evidenced by the number of publications in highly-respected journals, also motivated my research into the cause and variability of the 1470yr cycle.

Rather than being “unnecessary”, an astronomical model is entirely so because it is not plagued by the same issues associated with age models (Dincauze, 2000; Skinner,

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2008; Wolff et al., 2010) and geographic data (Longley et al., 2011; Mitchell, 1999). The nonstationary, nonlinear nature of the 1470yr cycle is problematic for statistical analysis, requiring it to be divided into its periodic components or sub harmonics (Imbrie, 1985; Mayewski et al., 1997; Schulz, 2002).

On Bond’s 1999 publication, our citation was derived from the republication of this work in 2013, DOI:10.1029/GM112p0035.

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Interactive comment on Clim. Past Discuss., 11, 4895, 2015.