

Interactive comment on “Lagged variation of moisture conditions in central Asia compared with monsoonal Asia during the last four interglacials” by Jia Jia et al.

Anonymous Referee #2

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In this manuscript, the authors compare the magnetic susceptibility records between the DK and the Xifeng sections and conclude that the moisture variation in central Asia lagged the one in monsoon Asia by 0-5 kyr during four interglacials. Understanding the phase relationship between climates of different regions is extremely important for improving our understanding of the forcing and feedback mechanisms, and this kind of study should be encouraged. However, the analysis of phase relationship between two records has a high demand on the quality and accuracy of the chronology of the records. In this study, there are weaknesses in chronology that prevent me to be convinced of the results.

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Firstly and most critically, age uncertainty is not mentioned in the paper. As far as I know, the age uncertainty in loess records can reach several kyr. How would the conclusion of the authors be influenced by the age uncertainty of the two loess records?

Secondly, the chronology of both DK and Xifeng sections was developed by correlation with the marine oxygen isotope record. This is quite acceptable in many loess studies, but I feel it is questionable when discussing phase relationship because the chronology of the two records is not independent.

Lastly but less concerned, the mechanisms given by the authors to explain the phase difference between the two records is unclear for me.

In summary, the climate difference between Central Asia and monsoon Asia is an interesting topic and deserves to be better studied, but I don't suggest the authors to discuss about the phase relationship based on the data they have now.

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