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Nonlinear Processes in Geophysics
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Interactive comment on "Search for the 531 day-period wobble signal in the polar motion based on EEMD" *by* H. Ding and W. B. Shen

Anonymous Referee #1

Received and published: 18 May 2015

This paper applies the EEMD method, a nonlinear and non-stationary time-series analysis method, to analyze superconducting gravimeter (SG) records to show a clear 531-day wobble in the polar motion (PM). It's an interesting result to readers, and it might be useful to study the polar motion and its geophysical excitation sources. Therefore, I recommend accepting it for publication after the following minor comments are considered.

1. After the early 1980s, the geodetic technology is used to obtain the time series of PM, which has greatly improved the quality of the data. Authors should give more description about the quality of the used data, and the background noise level in section 3.1.

2. In the introduction, the authors should explain why the Fourier analysis can't observe

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such a wobble and what is the advantage of the adopted EEMD method compared to others, such as the wavelet analysis.

3. I suggest that authors give more discussions or interpretations of the 531-day wobble for the variable frequency and phase.

Interactive comment on Nonlin. Processes Geophys. Discuss., 2, 647, 2015.

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