Nonlin. Processes Geophys. Discuss., 1, C261–C262, 2014
www.nonlin-processes-geophys-discuss.net/1/C261/2014/

Nonlinear Processes in Geophysics
Discussions
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Interactive comment on "Long-term changes in the North–South asymmetry of solar activity: a nonlinear dynamics characterization using visibility graphs" *by* Y. Zou et al.

Anonymous Referee #2

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The north-south hemisphere asymmetry of solar activity has gained new attention as we have just passed a prolonged and deep solar minimum. The authors studied the north-south asymmetry of sunspot areas using visibility graphs, and found nonlinear dynamics features. They showed the temporal changes in the hemisphere predominance of the graph properties lag those directly associated with the total hemispheric sunspot areas.

I have two main comments to improve the paper. First, the authors need to discuss why the visibility graphs and horizontal visibility graphs produced different results. Second, the paper focuses on presenting the methods and results, but lacks the physical understanding at least some hypothesis to explain the new finding. Literature search

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on the related topic may help.

Interactive comment on Nonlin. Processes Geophys. Discuss., 1, 665, 2014.