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Nonlinear Processes in Geophysics
Discussions

Interactive comment on "Wave propagation in the Lorenz-96 model" *by* Dirk L. Van Kekem and Alef E. Sterk

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First of all, we apologize for the late reply to Referee 1. We would like to thank the Referee for the careful reading of our manuscript and for providing constructive remarks and suggestions. We are happy to read that Referee 1 sees the merits of our work.

The Referee explains that our use of the terminology "standing wave" is not justified. We agree with this, and we thank the Referee for pointing out this misnomer. In the revised paper we will follow the suggestion of the Referee and replace "standing wave" with "stationary wave".

We will add references to papers that identify the Hopf bifurcations associated with the onset of low-frequency variability. We will add the suggested references to Simonnet et

al. and Read et al., but we will also look for additional references. We will add the suggested references on the double-Hopf bifurcation in connection with multiple travelling waves (Moroz & Holmes). On this topic we will also look for additional references.

We thank the Referee for pointing out the typos. We will fix these in the revised manuscript.

The page numbers in the reference to Frank et al. are indeed incorrect. The paper is 14 pages in length, but instead of page numbers we should have included the article number 1430027 in our BibTeX file. We will fix this in the revised manuscript. We thank the Referee for noting this.

Concerning Figure 1. In order to obtain a continuous diagram in the (j, t)-plane we have applied linear interpolation between the values x_j and x_{j+1} (see the accompanying caption). The Hovmöller diagram is somewhat "blocky" due to the choice of the time step and the number of linear interpolation points. We will make a figure of higher resolution for the revised manuscript. But perhaps with "braided striations" the Referee means something else. Within the red and blue bands one can see "streaks" of dark red and dark blue, which are indeed artefacts of our linear interpolation procedure. These streaks are precisely located at the j-values where x_j is a local maximum or minimum (for fixed values of t). At such points the linear interpolation of the x_j's is non-differentiable in j, and hence there is a large difference in gradient around either side of such points.

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