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Nonlinear Processes in Geophysics
Discussions
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Interactive comment on "The Effect of Quadric Shear Zonal Flows and Beta on the Downstream Development of Unstable Baroclinic Waves" *by* Yu Ying Yang et al.

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Dear Editors and Reviewers: Thank you for your letter and for the reviewers' comments concerning our manuscript entitled "The Effect of Quadric Shear Zonal Flows and Beta on the Downstream Development of Unstable Baroclinic Waves" (ID: npg-2020-43). Those comments are all valuable and very helpful for revising and improving our paper, as well as the important guiding significance to our researches. We have studied comments carefully and have made correction which we hope meet with approval. The main corrections in the paper and the responds to the reviewer's comments are as flowing: Responds to the reviewer's comments: Reviewer #1: Response to comment:

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Discussion paper

In this paper, we mainly refer to the literature of Pedlosky(2019). In the literature of Pedlosky(2019), only the influence of beta effect on the downstream development of barobaric wave is considered, but there are many factors affecting the downstream development of barobaric wave, among which zonal shear flow is one of the factors that need to be considered. After adding zonal shear flow, the influence of zonal shear flow on the downstream development of unstable baroclinic wave is analyzed emphatically. And starting from the final Lorentz equation, by drawing the real parts of A and R respectively, it can be found that the zonal shear flow has a great influence on the baroclinic wave. The writing style is not very mature, there are many aspects need to be improved, we have listened to your advice carefully, efforts to improve my writing level, further improve the language and style of the article. We tried our best to improve the manuscript and made some changes in the manuscript. These changes will not influence the content and framework of the paper. And here we did not list the changes but marked in red in revised paper. We appreciate for Editors/Reviewers' warm work earnestly, and hope that the correction will meet with approval. Once again, thank you very much for your comments and suggestions.

Please also note the supplement to this comment:
https://npg.copernicus.org/preprints/npg-2020-43/npg-2020-43-AC1-supplement.pdf

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