

## ***Interactive comment on “Large-scale Dynamics of Tropical Cyclone Formation Associated with the ITCZ Breakdown” by Chanh Kieu et al.***

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Manuscript: Large-scale Dynamics of Tropical Cyclone Formation Associated with the ITCZ Breakdown

Journal: Atmospheric Chemistry and Physics

Authors: Chanh Kieu, Quan Wang, and The-Anh Vu

Recommendation

Accept with minor revision.

General comments

C1

This paper revisits the well-known topic of the ITCZ breaking down due to barotropic instability into individual vortices that can be seeds for tropical cyclones. This paper provides a new and unique perspective on the topic, showing extensive mathematical derivations about the zonal wavenumber that first becomes unstable in ITCZ breakdown and how this zonal wavenumber sets constraints on the size and total number of tropical cyclones on the globe at one time. Overall, the paper is well-written and the mathematical derivations appear to be accurate. The only concerns I have are about presentation quality. There are issues with the authors being too vague about the nomenclature in their derivations, which made it difficult to check all of the math. Additionally, the authors are not consistent in physically interpreting many of the parameters, which if fixed, would help more general audiences follow the entire paper. My concerns seem like they can be addressed relatively quickly, thus I am recommending acceptance of the paper after minor revisions.

See the annotated pdf file to see detailed comments/suggestions and spelling/grammatical errors.

C2