Ocean Sci. Discuss.,
https://doi.org/10.5194/os-2017-33-RC1, 2017

Ocean Science Discussions

Interactive comment on "A study on some basic features of seiches, inertial oscillations and near-inertial internal waves" *by* Shengli Chen et al.

Anonymous Referee #1

Received and published: 21 June 2017

Aim of study is to investigate the absence of hypothesised even numbered modes of osculation within standing wave systems - called Seiches. Using MITGCM for an idealised basin 600km long (60m water depth) this is studied. The motivation, hypothesis and conclusion appears to be unclear, and needs to be stated; Further, the writing style also needs to be improved and much more detail and confidence in reported results are needed in my opinion. For example, a conclusion is needed in which the authors should state why study this phenomena (Why is this important?)? What was found? What this means for the scientific community (and stake holders)? Below are some further suggested changes to the text, but this is not a full list. Suggested improvements to text: Abstract - add more detail to explain why this study is about, why important, what was one and what this means. L25 - what kind of basin? an idealised rectangular? cer-

Printer-friendly version

Discussion paper

tainly appears large enough for Coriolis (inertial oscillations) How was it studied? (i.e. a model). L26 - what is "vertical stratification" I think you mean "stratified" L27 what are "even modes" explain further please to aid reader L53 (and throughout document) - please add space between references - for example here, "2016;Webster" should be "2016; Webster" L55 "motions(D'.." please add space and check throughout document L90 - 91. Nice clear aim, but why is this important? What is your hypothesis? Please be clear. L100 - So you use the MITGCM model. Please add much more detail about this model both here and in the introduction. Why use this model? How do you know the model is correct? What are the discretised equations? How is wind stress parameterised into the model? Are the boundary conditions non-slip? What density of water is assumed? Furthermore, how can you be confident of the model results? I am sure this is a classical problem and could be compared to other models and theory for example (i.e. I could be mean here and ask if you used a different model would you get the same result?). Lastly, what stratification is used in the second case? what temperature, at what depth is thermocline?

Interactive comment on Ocean Sci. Discuss., https://doi.org/10.5194/os-2017-33, 2017.