

## ***Interactive comment on “A Theory of Pleistocene Glacial Rhythmicity” by Mikhail Y. Verbitsky et al.***

### **Anonymous Referee #1**

Received and published: 18 June 2018

In the study, the authors want to use a non-linear model to highlight the importance of ocean feedbacks in the shift of glacial-interglacial cycle periods. It is valuable to see that feedbacks are clearly defined in this non-linear model.

However, the definition of ocean temperature ( $w$ ) is quite misleading in the study, although the authors have clarified  $w$  is in fact a cumulative proxy of outside-of-glacier climate. The authors suggest linking  $w$  with deep ocean temperature, but why do they compare simulated  $w$  with tropical SST in Figure 4.

To improve the paper, I suggest the authors 1) not emphasize ocean temperature or ocean feedback in the paper, but simply call  $w$  temperature, and temperature feedback (or other better words), 2) add one discussion section to show the possible linkage between  $w$  and ocean temperature, and  $V$  with ocean feedback. In this way, although the importance of ocean is not highlighted, the current study is still meaningful to show

C1

that temperature feedback is more important than orbital variations for the shift of the periods. Then the paper becomes understandable.

---

Interactive comment on Earth Syst. Dynam. Discuss., <https://doi.org/10.5194/esd-2018-14>, 2018.

C2