

I think that the manuscript now is very close to “be accepted” status and required corrections are very minor indeed. But still ...

1. I am still not completely satisfied with the explanations behind the derivation of (10). Yes, for observational data the diurnal cycle is weak and Fig.11 shows that  $\overline{(T^4)} \cong (\bar{T})^4$  but what about the solution of (9) where this assumption is used? Would you please provide the estimate for the amplitude of diurnal cycle and analogue of Fig.11 obtained for numerical solution of model (9) at some reasonable value of the heat capacity.

2. Page 1, line 1 “....simplified systems of the climate system....”. Please reword.

3. Page 4, line 9. I would also add that the “local radiative equilibrium assumption” cannot be used at these conditions.

3. Page 4, line 12 “elsewhere”. Please correct.

4. Page 10, line 18. I would not use “Ironically” here. Two estimates are close because the Earth is a fast rotating body with significant heat capacity having spherical geometry. Original estimate implicitly uses these facts. I do not see any irony here.