

Interactive comment on “Residence Time of Energy in the Atmosphere” by Carlos Osácar et al.

Anonymous Referee #1

Received and published: 25 October 2019

This is a note describing a very simple computation of the residence time of energy in the atmospheres of the earth and sun. Apparently this has not been previously stated in the published literature. The note is well written and so I see no need request extensive revision. I do note a few items that could be attended to that would improve the submission. First, it is not exactly correct to say the the earth’s atmosphere is energetically in balance. In the past decade there has been a small increase in atmospheric energy, most likely due to anthropogenic increases in greenhouse gases. Second, it would be more consistent if the energy totals and fluxes for the atmosphere were the result of the same computation and from a single source. For example, Peixoto and Oort (1992) could be the single source. Finally the authors should explain why solar absorption of energy is used in the residence time calculation and terrestrial radiation absorption is omitted in this calculation.

C1

Interactive comment on Nonlin. Processes Geophys. Discuss., <https://doi.org/10.5194/npg-2019-52>, 2019.

C2