Answers to referee #2

1) I am a bit surprised still that the simplified exponential extinction expression for the net radiation partitioning performed better than the separate longwave and shortwave partitioning developed in TSEB. Was this because the measured net radiation was used in the exponential extinction formulation (Eq. 9) instead of deriving net radiation from estimated net shortwave and estimated net longwave components? How net radiation was determined when applying Eq. (9) needs to be clarified in the text.

Thanks for your comment, indeed this result is a bit surprising and this question arises. However we didn't use the measured net radiation but the derived net radiation from estimated shortwave and longwave components. This aspect was clarified in the text by adding the following text (p.4, l.25, after eq.9) :
"where the factor κ is set to 0.45 for spherical distribution of leaves following Roos (1991), and Rn is estimated from measured shortwave and longwave components".

2) One other point to alert the authors concerning the poor performance of TSEB under sparse/bare soil conditions. They should cite the recent paper incorporating an improved soil resistance model/algorithm in TSEB for sparse canopies, which should be adopted in future TSEB analyses… Li et al 2018. Evaluating soil resistance formulations in thermal-based two source energy balance (TSEB) model: Implications for heterogeneous semiarid and arid regions Water Resources Research. https://doi.org/10.1029/2018WR022981.

Thank you for this reference, it is actually relevant to the discussion. We figured out that the reference to Kustas et al., 2016 was also missing, and both were added in the text at section 3.1, p.13, l.10 :
"The soil resistance rs also plays an important role on bare and sparsely vegetated surfaces, and recent studies (Li et al., 2019; Kustas et al., 2016) showed that adapted formulation or modeling improved TSEB performances in arid or semi-arid conditions".