

Response to Anonymous Referee #2

We thank Referee #2 for the helpful comments and suggestions. In the following, we provide an item-by-item response to the comments. Reviewer's comments are written in italic; authors' responses are shown in upright font.

General comments

EF is usually used to extrapolate instantaneous latent heat flux derived from remote sensing to daily values. Therefore, the research presented in this paper is relevant and the evaluation using FLUXNET data is important for analysing the applicability of the assumption of a constant EF under different conditions.

The results are presented in a clear and concise way. It would, however, be more informative to quantify the errors when non-optimal conditions exist (e.g. Landsat overpass time as mentioned in the paper or specific atmospheric conditions).

Response: We agree on this. In order to systematically examine the EF self preservation assumption, it is very important to analyze the EF behavior under different conditions. That is why we classified the weather conditions into clear, partly cloudy and cloudy in the present study. The results are presented in Figure 3. Also, the EF self preservation during daytime period between 9:00 LT and 17:00 LT (including Landsat overpass time) was tested and is therefore applicable for a wide range of existing EO platforms. The relative errors between specific time period EF and daytime average EF were quantified and shown in Figure 3.

Specific comments

Page 2, line 1: Optical remote sensing refers to visual, near-infrared and shortwave infrared bands. Thermal infrared is not considered optical.

Response: Thank you, the phrase 'optical remote sensing' was replaced by 'optical and thermal remote sensing'.

Page 3, line 25: Fig.1 should be Fig. 2

Response: Thank you, this has been changed in the text.

Page 4, line 6: Use capital for Covariance

Response: Thank you, the phrase 'Eddy covariance' was replaced by 'EC'.

Section 3: use present tense to present results (e.g. Figure 3a shows...)

Response: Agree, reviewer suggestion adopted.

Page 5, line 15: change to "daytime EF at times without cloud cover."

Response: Thank you, in the previous studies, the EF self preservation is assumed to be valid when all times within the integration period are clear sky. But in our study, only the specific time of day measurement must be clear, the rest of the day can be clear or cloudy. Thus, the suggested description is not suitable for our results.

Page 6, line 16: optical and thermal satellite sensors

Response: Thank you, we have adopted this.