

## ***Interactive comment on “Implementation of a soil albedo scheme in the CABLEv1.4b land surface model and evaluation against MODIS estimates over Australia” by J. Kala et al.***

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We thank Reviewer #2 for their comments.

1. For the albedo related study, I don't see the necessity for the authors to evaluate CABLE's capability in reproducing the energy fluxes at the two FLUXNET sites. This topic would be worth writing another paper that systematically evaluates CABLE's performance against more towers and observation-based large-scale estimations of energy budget and partitioning over the Australia.

Reply: We thought about this criticism at length. On reflection we agree with the reviewer and have removed the comparison against FLUXNET sites.

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2. For the Figures 4, 5, 7 and 8, it would be useful to know whether those differences are significant or not.

Reply: We carried out statistical significance testing of the differences in albedo between CABLE and MODIS and SPOT, and most of the differences were found to be statistically significant at 95%. Hence, we simply show all the differences. Additionally, in this context, the absolute differences in albedo provide all the necessary information, as deviations in albedo of more than 0.1-0.2 have a large enough influence on the surface energy balance, to warrant further improvements. We have clarified this in the text:

“An initial analysis of the differences between CABLE and MODIS and SPOT albedo showed that most of the differences greater than  $\pm 0.05$  were statistically significant at 95%. Hence, we simply show the absolute differences. In this context, deviations of more than 0.1-0.2 from remotely sensed estimates are considered to be large enough to warrant further improvements to the model.

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