

Interactive comment on “Analysis of effective resistance calculation methods and their effect on modelling evapotranspiration in two different patches of vegetation in semi-arid SE Spain” by A. Were et al.

Anonymous Referee #1

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This paper deals with the issue of estimating latent heat flux under heterogeneous conditions. This is in deed a very important issue for several disciplines i.e. hydrology, meteorology, agrometerology. The authors tested 3 empirical approaches for defining effective or area-averaged resistances. Several papers have addressed this same issue for the past 20 years (Shuttleworth et al. 97 , Lhomme et al. 94 among other) which have not cited in the references. I therefore suggest that the authors test other approaches , especially those based on the “matching-rule” of the surface fluxes.

On the other hand, I have serious concern about the data used in this study :

A- The authors should address the issue of the footprint of the eddy covariance system using a footprint model. B- The number of soil heat flux plates is not enough to capture the variability of the heat flux encountered in this type of environment C- No detail is given how they scale up the measured resistances to the patch scale

In conclusion , This paper can be accept (with major revision) if the authors addressed all the above points

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Discussion Paper