

Interactive comment on “The two-layer surface energy balance parameterization scheme (TSEBPS) for estimation of land surface heat fluxes” by X. Xin and Q. Liu

Anonymous Referee #1

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A two-layer surface energy balance parameterization scheme (TSEBPS) is proposed for the estimation of surface heat fluxes using thermal infrared (TIR) data over sparsely vegetated surface. It was also validated by using the two experimental data sets in this research. Some interesting results were gotten in this study and therefore the subject of the paper is worth to be published. However, the manuscript still has some shortages in current:

1. Page 6796, line 21 to 21, “At present, remote sensing... on the regional scale”. You should give the references here.

2. Page 6797, line 13 to line 18, you should give the references here when you review the single-source model.
3. “auto-weather station (AWS)” in the manuscript should be “automatic weather station (AWS)”, right?
4. You should point out how to get all variables in the equations in your manuscript. I found some of them were missed in the manuscript.
5. I think G in your equations is surface soil heat flux, right? Normally soil heat flux is been measured at the fixed depth under the surface, you should pointed out how to calculate it to the surface in your manuscript.
6. I think equation (8) is not correct over sparsely vegetated surface. I think there are some more components (eg. soil heat flux) in the right of the equation, right?

Based on the comments above, I suggest that this manuscript should be accepted after the revising.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 6, 6795, 2009.

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Interactive Discussion

Discussion Paper