**Hydrology and Earth System Sciences Discussions**

Interactive Comment

# *Interactive comment on* "Measurement and estimation of the aerodynamic resistance" *by* S. Liu et al.

**Anonymous Referee #1**

Additional comments:

1. I agree with Referee 3: (1) to use Eq. (7) as a standard (or use Eq.(7) to derive z0m and z0h or kBˆ-1) for the comparison with other models; and (2) to give more direct conclusions.

2. Please add a brief explanation to the phenomenon that aerodynamic resistance measured by EC method is higher than the one measured by pan-evaporation. You may refer to my first review

3. Eqs. (37-38) may mislead the readers (simply express rah as a function of wind speed) and should be removed. Instead, to improve our understanding, you may show composite diurnal variations of atmospheric stability and wind speed, and how they cor-

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respond to observed rah variations (i.e. the distribution of the aerodynamic resistance takes a "U" type in the daytime and inverse "V" type at night). I believe the variation of rah is related to diurnal variations of kBˆ-1, as mentioned in the first review.

4. To address the importance of the variation of rah, you can also calculate heat fluxes with daily mean rah, and show how this simple approximation affects calculated heat fluxes.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 3, 681, 2006.

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