

## ***Interactive comment on “Estimate soil moisture using trapezoidal relationship between remotely sensed land surface temperature and vegetation index” by W. Wang et al.***

**Anonymous Referee #2**

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The manuscript is well structured and with an adequate use of English language. The research area falls very well into the journal objectives, and therefore this manuscript has potential to be published in it. However, I consider that some issues should be discussed before its publication.

1)The authors describe excellently how the temperature values for delimiting the trapezoid VI-TS space were retrieved. However, they barely discuss anything about the selected vegetation index (EVI) and its values for bare soil and full vegetation. Besides, since the journal may not be aimed to remote sensing experts, the authors should

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provide some information about that index

2)Some discussion about the uncertainties and possible errors induced by the use of the surface temperature instead of the aerodynamic temperature in Eq. 3 should be provided. 3)The authors systematically use the term “albedo” when actually they are dealing with the “directional surface reflectance” provided in the MOD09A1. In fact, the formula provided by Liang et al. (1999) is aimed for using narrow band spectral albedo. The application of the directional surface reflectance in the manuscript leads to ignoring the anisotropy of natural surfaces.

For additional particular remarks, please find the comments in the attached pdf document.

Concerning other minor details, some equations are not numbered, and captions in figures and tables should be more detailed

Please also note the supplement to this comment:

<http://www.hydrol-earth-syst-sci-discuss.net/7/C4101/2010/hessd-7-C4101-2010-supplement.pdf>

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 8703, 2010.

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