

## ***Interactive comment on “Spatial variation of shallow and deep soil moisture in the semi-arid loess hilly area, China” by L. Yang et al.***

### **Anonymous Referee #1**

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This paper analyzed the spatial variation of shallow and deep soil moisture in a semi-arid environment. The analyses were based on large amount of field sampling and lab work. The authors should seek help from a native English speaker to polish this manuscript for final publication. Furthermore, most of the analyses are descriptive. Is it possible to do a statistical analysis, e.g., regression and/or CCA (Canonical Correspondence Analysis), to examine the relationships between SMC and environmental variables?

P4559L24-L28: how did you store soil samples? P4560L11: ‘28 m layers’, 28 m depth? P4561L14: ‘the total closeness of each quadrat’ could be ‘canopy cover’. How did you measure canopy cover? P4564L23: ‘Low SMC in shallow layers led to low statistical

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significance'? Table 2a: is it possible to make the 'vegetation growth condition' column consistent? You can show the same variables for different transects. Fig. 1: what is a 'valley line'? Add unit '(m)' for Elevation. Fig. 2: it might be good if you explain NG, CP, AF, etc. in the caption.

P4554L23-L24: soil moisture availability... the only water source? P4557L6: The unit of temperature should be 'âĎC'. P4557L19: sparse grass with annual plants? P4558L17-L18: Abandoned farmland ...was fallowed in 2002? Consider revise this sentence. P4559L3: You mentioned 'eight typical transects' in this line. However, you have 9 transects in Fig 1. P4567L28: filed should be field. Table 3: '\*means with the same letter... ' not sure what do you mean.

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