

I thank the authors for the interesting discussion and reactions they provided.

All comments have been thoroughly addressed and I am satisfied with the modifications performed to the manuscript.

I however wish to « negotiate » with the authors some very minor points as a kind of « trade-off » between original remarks from my side, and their answer :

1- about the use of « emissivity » : as the use of this word here is just physically improper, but considering the reasons why the authors stand to it, I would suggest the following changes in the manuscript (in blue) :

« Vegetation emissivity depends on Leaf Area Index (LAI) and Stem Area Index (SAI) and is calculated as :

$$\varepsilon_v = 1 - e^{-(LAI+SAI)} .$$

*This parameter is not an emissivity in the physical sense but we stick to this denomination here for consistency with the nomenclature of the technical description of CLM4.5 (Oleson et al., 2013). »*

2- regarding cold content : I still think that the sentence P10 L1 « Spatial patterns in snow-off date are similar to those in cold content as higher cold content corresponds to later meltout » is misleading as the use of « as » suggests a causal relationship which is not universal (cf the role of SWE on the required melt energy, disregarding the value of the cold content). I therefore suggest the following change :

« Spatial patterns in snow-off date are similar to those in cold content *with* higher cold content corresponding *ing* to later meltout »