

I am glad to see that the authors have addressed most of the previously raised issues very thoroughly and the manuscript has improved considerably. There are still a few rather minor issues, most of them textual suggestions. After these issues are solved, the manuscript is ready for final publication in my opinion.

1. In the previous review, I wrote a few comments about the comparison of VALHALLA with SNOWBAL. Most issues are sufficiently resolved, but one important topic still remains. An important difference between SNOWBAL and VALHALLA, from my understanding, is that when implemented in a climate model, SNOWBAL is also able to provide solar radiation absorption for each subsurface snow layer on each model time step, thus allowing for internal heating. VALHALLA provides the total energy absorption of the snowpack with high accuracy, but if I am not mistaken, does not provide shortwave radiation absorption for each subsurface snow layer. Hence, a climate model is then unable to determine internal heating. In other words, the answer of the following question should help take away the confusion: 'When implemented in a climate model, does VALHALLA provide solar radiation absorption for every subsurface snow layer and on every time step?'. If the answer is yes, I think this should be mentioned in the manuscript. If the answer is no, then this should be mentioned in the comparison with SNOWBAL where the purpose of SNOWBAL is compared with VALHALLA.
2. P2 L35-38: Some citations would be useful here.
3. P5 L124: '... only on illumination ...' → '... only on SZA ...'
4. P6 L153: '... or broadband irradiance irradiance ...' → '... or broadband irradiance ...'
5. In Sect. 3.5, it is not immediately clear what is meant with 'constant spectral resolution', especially in P15 L293-294: '... obtained for varying constant spectral resolution.'
6. P15 L296: 'We believe that for large spectral resolution...'. This should be low resolution.
7. P18 L334: 'The tps were taken into account in the method (30 tps), ...'. I don't understand this.
8. P19 L366: 'ration' → 'radiation'

The following sentences can be reformulated to improve readability:

1. P15 L289-290: '... is absorbing a large amount of energy, such as with an important LAPs concentration, the biases on...'
2. P15 L301-302: 'However, for the ... at 20 nm resolution.'