

## ***Interactive comment on “ $^{10}\text{Be}$ in last deglacial climate simulated by ECHAM5-HAM – Part 1: Climatological influences on $^{10}\text{Be}$ deposition” by U. Heikkilä et al.***

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The authors tackle the problem of a climate influence on the  $^{10}\text{Be}$  deposition onto polar ice sheets, particularly for times beyond the Holocene. I (Horst Fichtner, hf@tp4.rub.de) consider the study as sound and publishable by CP, but have a few comments that the authors should consider for the preparation of a revised version:

Major:

(1) What is the reason to include both cases "10k" and "11k" for the simulations, given that their characteristics as provided with Table 1 are almost identical? From those

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values one would certainly not expect to find any significant differences in the corresponding  $^{10}\text{Be}$  simulations, which appears to be confirmed by the results described.

(2) In the last sentence (page 14) it is stated that "the reconstructed snow accumulation rate [...] adds some uncertainty". It would be helpful to a reader to quantify this uncertainty.

Minor:

(a) The title would better (?) read " $^{10}\text{Be}$  in the last deglacial...".

(b) A few abbreviations (EOF, SLP, SAM, NH, SH) appear to be undefined or to be defined too late in the manuscript. Although their meaning might be obvious, a manuscript should be self-contained. The abbreviation "GHG" is introduced on page 4 but not strictly used in the following text.

(c) Shouldn't the sentence "... sea ice cover to be described." (page 3) better read "... sea ice cover to be prescribed." ?

(d) The x- and y-axes in Figure 2 and the x-axis in Figure 3 need labels.

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