

***Interactive comment on “A model comparison
study for the Antarctic region: present and past”
by M. N. A. Maris et al.***

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In this paper, you use Law Dome accumulation and isotope values from 6k and LGM which you have derived from our 2004 Annals of Glaciology paper (van Ommen, Morgan and Curran [VMC]). I note that your values for temperature at MH and LGM do not match mine.

First, to convert our permille isotope values in $\delta^{18}\text{O}$ to K you need to use our calibration of 0.44 permille/K.

So for MH at Law Dome you report +0.1K whereas VMC fig 7 indicates around +1.1 to 1.4K (0.5–0.6 permille).

For LGM at Law Dome, you report -2.9K whereas VMC fig 7 indicates around -14.8K
C1772

(-6.5 permille).

Regarding the large Law Dome LGM temperature change, see Landais et al., QSR 2006 which quotes Morgan et al. Science, 2002. In these papers we cite the LGM ΔT as -15K using the 0.44 permille/K calibration slope, but we note that for the differing glacial conditions that it is possible that a slope more like the spatially derived ~ 0.7 permille/K could be used, yielding a ΔT around -10K. I think this latter argument though is not strong and favour a larger ΔT .

Interactive comment on Clim. Past Discuss., 7, 3583, 2011.