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Reply on RC1

Frédéric Parrenin (Referee)

Referee comment on "Enhanced moisture delivery into Victoria Land, East Antarctica, during the early Last Interglacial: implications for West Antarctic Ice Sheet stability" by Yuzhen Yan et al., Clim. Past Discuss., <https://doi.org/10.5194/cp-2021-7-RC3>, 2021

I forgot to write in my review another important comment I had when reading the manuscript. It is related to the quality of the ice synchronization between EDC and S27. The air synchronization via $\delta^{18}\text{O}_{\text{atm}}$ is quite unambiguous, so I do not expect a big uncertainty coming from there. But this is not the case of the ice synchronization through deuterium. Everything relies on what has been done in Spaulding et al. (2013), assuming the climate records in S27 and EDC are in phase. The records do not look exactly the same, so we can expect uncertainties coming from this synchronization. It might be possible for example that the near-zero inferred Delta-age is actually due to a lead of the S27 deuterium with respect to the EDC one. This lead could be due to local variations in the climate at S27. It is true that there seems to exist an interglacial optimum at S27, but again there is no perfect guarantee that this optimum is exactly in phase with the EDC one. I think the quality of this ice synchronization should be discussed in more details and with more rigor, since the main conclusions of the paper rely on it.