

Interactive comment on “What controls the isotopic composition of Greenland surface snow?” by H. C. Steen-Larsen et al.

Anonymous Referee #2

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Due to other deadlines and christmas here just a few comments:

6041 L15: Arctic origin could mean from the Arctic ocean, from the Canadian Arctic, whatever. It would be interesting to know where the moisture came from.

6042 I22: Fraction would be a percentage. 2.5 and 4.5 seem to be factors to me.

6048: I20: Since the NEEM temperature seems to be affected by the influence of changing weather systems it you can have relatively low temperatures in summer as well as relatively high temperatures in spring. Thus it sounds a bit strange to speak of a spring-summer transition.

6049 I25: Atmospheric rivers: to my knowledge the term was introduced in the 90s by Newell and Young, better use the original reference. And still it would be interesting to

C2969

know which synoptic situation caused the atmospheric river.

6056: I11 From my understanding isotopic fractionation should occur during sublimation/deposition for exactly the same reasons as during evaporation/condensation (mass dependent saturation vapor pressure, mass dependent diffusion). Model assumptions are not necessarily the same as physics. Unfortunately, I am not aware of a study with quantification of these processes that might justify their neglect in the corresponding models. Would be happy to read about this in your paper.

Merry christmas!

Interactive comment on Clim. Past Discuss., 9, 6035, 2013.

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