

Interactive comment on “Oxygen and carbon isotope composition of modern planktic foraminifera and near-surface waters in the Fram Strait (Arctic Ocean) – a case-study” by T. Pados et al.

Anonymous Referee #2

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Pados et al. present a set of measurements from the Fram Strait which includes $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$ of two foraminifera species in the water column and in the sediment as well as the corresponding isotope measurements of the water $\delta^{18}\text{O}$ and DIC- $\delta^{13}\text{C}$. As such, the results are interesting for calibration of the wide use of foraminifera in paleoceanographic studies. I have two major concerns, which are of a general nature: 1. what is the degree of the overlap between this paper and the Pados and Spielhagen (in press) paper? I did not see the later and can not comment on that. 2. Overall, when isotopic differences are discussed (between water column and sediment or between

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water column foram and calculated equilibrium) the rigorous Standard deviation should be presented. I also suggest to put the differences in a graphic presentation to make it clear to the reader. Other comments (in the order they appear in the text): 1. page 2 line 9-10: why do you ignore temperature? 2. Page 2 line 22: is it carbon or oxygen or both? 3. Page 3 line 8: what are the disciplines? 4. Page 5 line 23: please add δC to T 5. Page 6 Figure 4: axis of isotopes are missing from the graphs 6. Page 6: what is the slope of $\delta^{18}\text{O}/\text{Dsalinity}$ 7. Page 7: Fig 7 appears before Fig. 5-6 8. Page 7 line 27: please add STDEV to all numbers 9. Page 8 line 7: please put numbers + STDEV on highest and lowest 10. Page 9 line 3: this is not a theoretical equation. It is an empirical calibration 11. Page 9 line 20-26: please provide numbers 12. Page 10 line 5: needs a better explanation although rejected later 13. Page 10 line 12: do you numbers to support the claim of high Primary Production? The $\delta^{13}\text{C}$ does not show it. 14. Page 12 line 9: please change throughout the text to either station numbers or longitude. 15. page 13 line 20: needs STDEV 16. Page 14 line 1-2: not clear 17. Page 14 +STDEV 18. Page 14 Line 6-13: this is a place where the differences should be graphically presented. 19. Page 15 line 1-5: this contradicts the conclusion of oxygen difference between sediment and water column. If the Suess effect is the explanation it is restricted to 250 years and not 1-3Ka.

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