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## ***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 Farm Strait which includes d18O and d13C of two foraminifera species in the water column and in the sediment as well as the corresponding isotope measurements of the water d18O and DIC-d13C. 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  $\sigma_C$  to T 5. Page 6 Figure 4: axis of isotopes are missing from the graphs 6. Page 6: what is the slope of  $d^{18}O/D_{salinity}$  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  $d^{13}C$  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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**BGD**

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