Overall, this is a well-written paper with solid analysis and provides some useful new insights into the role of intraseasonal oscillations in driving variability in chlorophyll fluorescence and gross chlorophyll productivity at the subsurface chlorophyll maximum. I have found no major issues with the analysis or interpretation, but I have highlighted some minor revisions below.

L35 – should "oscillate" be "oscillates"?

L99-101. "We note fitting a log-transformed curve…" – I don't understand this sentence. You didn't fit a log-transformed curve, you fitted an exponential curve. You also refer to supplementary materials, but I don't see any discussion of the precision error being "not equally weighted" in these supplementary materials. Please clarify this sentence.

Supplementary material and units of *I*. In the supplementary materials, you state that *I* is the vertical change in irradiance, with units $\mu W\ cm^{-2}\ nm^{-1}$. Firstly, it's not clear why you use $\mu W\ cm^{-2}$ rather than $W\ m^{-2}$? A conversion factor would be involved, but the numbers would only be different by 10^{-2}. Secondly, if this is a *vertical change* in irradiance then shouldn't these units be divided by vertical distance (e.g., per metre)?

L134: "Corrected ChlF was small with the 9th percentile of 0.016 [micrograms per L]" – do you mean that the **correction** to ChlF was small? Figure S2 seems to support this, but actual values of ChlF were much larger (order 1).

L181 – Why is the SCM at a deeper/denser isopycnal in the BGC argo float data than the wirewalker observations?

L202: "deployed at the intersection of two eddies" – is this shown anywhere? How do you know this to be the case?

Fig. 2. I find it very hard to follow which day is which from the bottom panel to the top panel. I think this figure would be improved if panels (a) and (b) were switched, so that the daily-averaged values in panel (e) could be more easily linked to the raw values in (a).

In addition, Fig. 2 has numerous instances of poor formatting – in particular, the title text for several panels overlaps with the plotting area. The colorbar for panel (b) is also not labelled.

L221: "The time-derivative of SCM ChlF" – is this shown anywhere? Perhaps a better way to phrase this would be to say that PAR is maximum at this time and the SCM ChlF typically increases rapidly, as seen in Fig. 2c.

L239-244: For a while, I was confused by this paragraph as I thought subsurface PAR was PAR at -0 m (I know you refer to the latter as surface PAR in water, but hopefully you can see where the confusion comes from). I would suggest using SCM PAR rather than "subsurface", especially here.

L256: “temperature <= 1°C the sea surface temperature” – insert “lower than” or similar.

L257: “density increase… corresponds to a temperature increase of 1 °C” – I think you mean decrease? Increasing temperature decreases density!

L261: “July 17.8” – typo?

L264-269: I’m not convinced by this argument, I think it needs more evidence. From what I can see, the SCM ChlF is not strongly affected by the shoaling of the MLD. There is almost no effect of the MLD shoaling from day 16-18 on SCM ChlF – this only increases after 20 July as the MLD increases in depth. Therefore, the final two sentences of this paragraph seem very speculative.

L315: “from southern BoB” –> “from the southern BoB”