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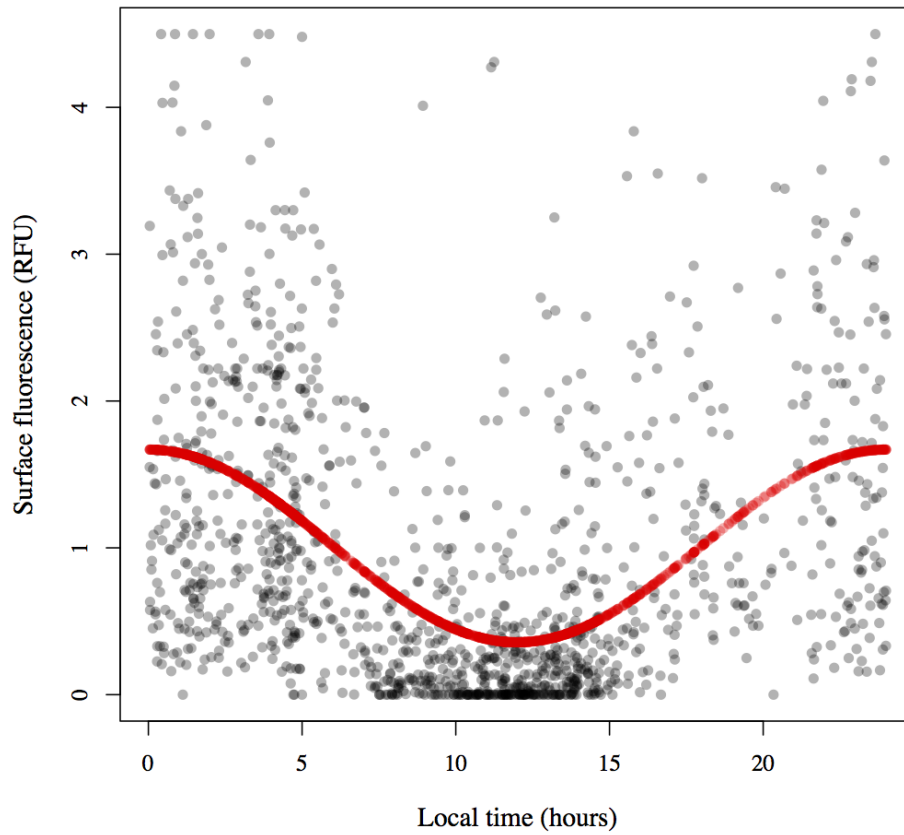
*Supplement of*

## **An optimised method for correcting quenched fluorescence yield**

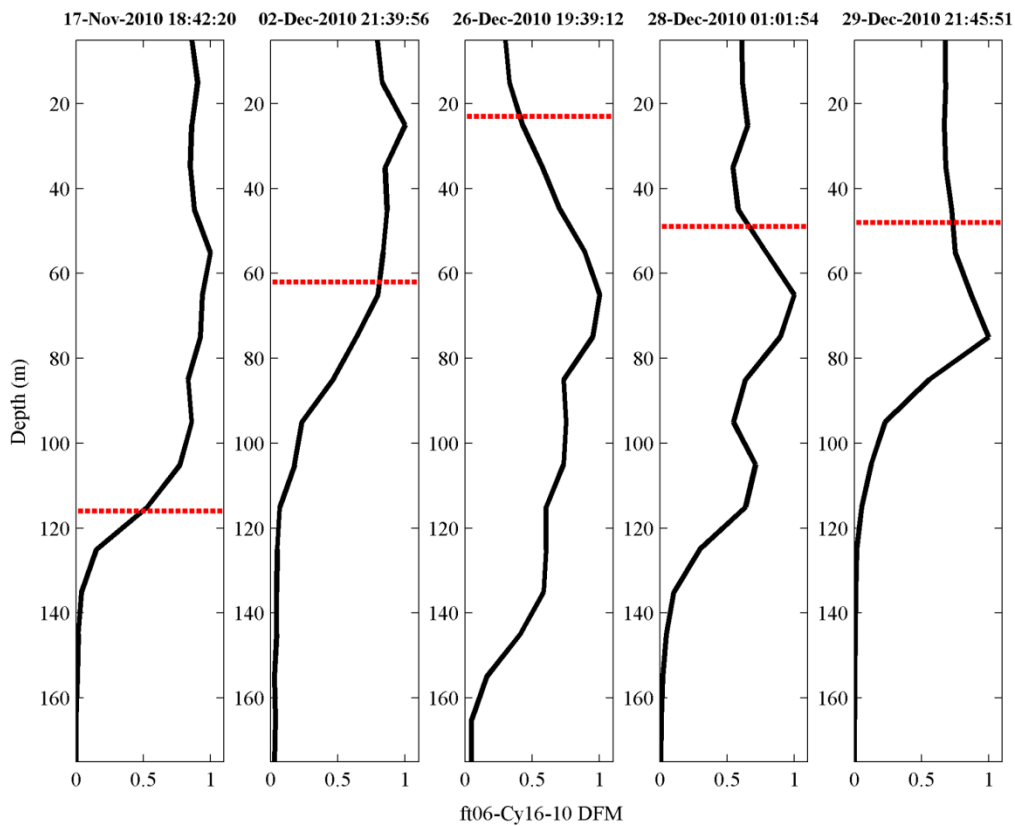
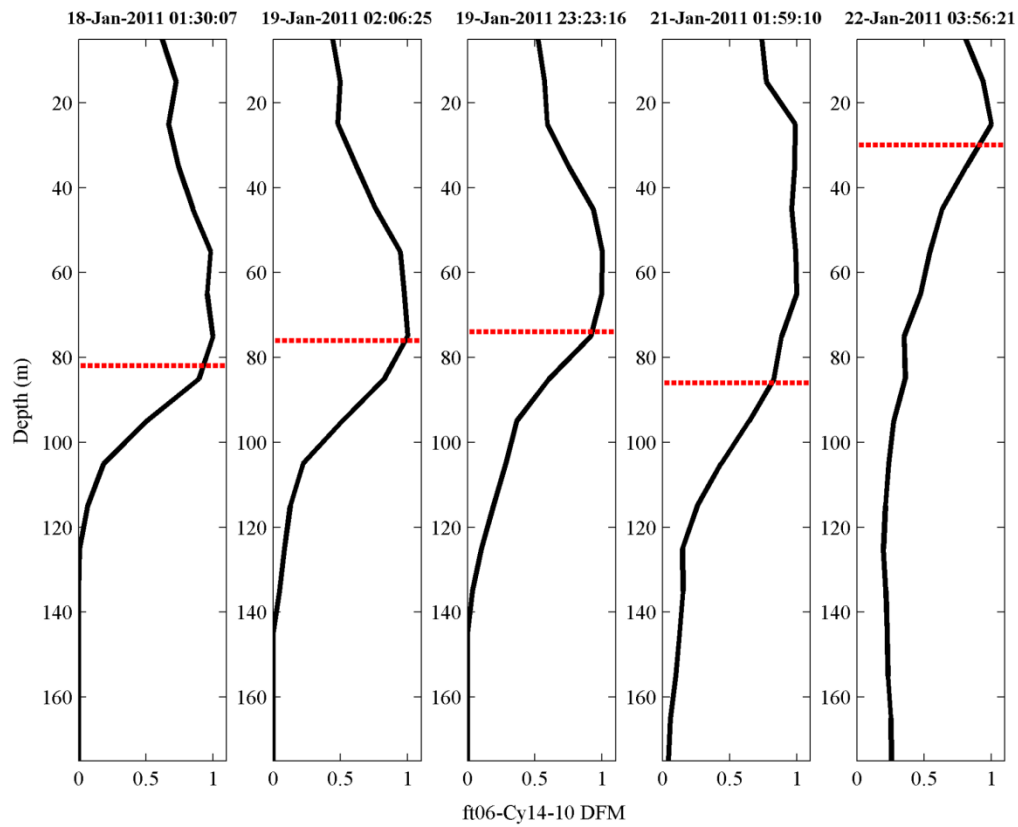
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## Supplementary Figures



Supplementary Figure 1: Uncorrected surface fluorescence data (top 10m) collected by 11 animal-borne fluorometers over several austral summers. Fitted sin wave in red illustrates how yield is significantly suppressed around midday. ( $n = 1267$ ,  $R^2 = 0.26$ ,  $P < 0.001$ ).



Supplementary Figure 2: Discreet vertical profiles of ‘night: unquenched’ fluorescence (solid black line) with mixed layer depth shown by the dashed red line. Profiles were collected off Kerguelen in November and December 2010 and January 2011 by two instrumented seals, Cy14 and Cy16.