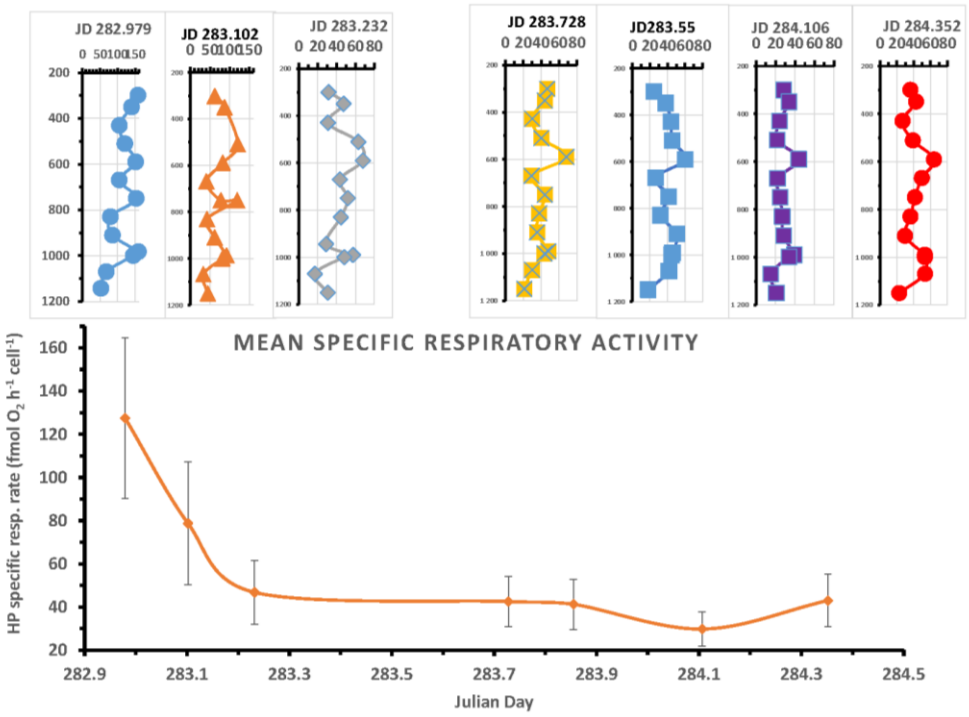

Supplementary Fig.S1 HP cell specific respiration rate (fmol O_2 /(h·cell)

The mesopelagic time course of HP mean cell-specific respiration rate during leg 2 is displayed in the lower graph. Each dot point on the curve represents the mean value of the HP cell specific respiratory activity between 300 and 1150 m depth. The vertical distribution of the HP cell-specific respiration rate at the corresponding Julian day is illustrated in upper individual panels, at the same scale and in the order of the observations. The first two vertical distributions observed during leg 2 clearly support the discrete nature of the pulses identified by peaks of very similar intensities at around 760 and 1000 m respectively, whereas the similar minimum values, observed at around 800 to 900 m and at around 1050 to 1150 m respectively would refer to cells negatively impacted following release from disintegrated TEPS upon sinking. The end of the pulsed export event, seen from JD 283.232, is characterised by a uniformly low cell-specific respiratory activity down through the water column with almost no contribution by cells rapidly drawn down from the surface in sinking TEP. Note that the same unit is used to express the cell specific respiration rate and that two different scales are involved in the representation of the vertical profiles of the HP-cell specific respiratory activity.