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**Modulation of the near-wall cycle due to large-scale log-region events** ROMAIN MATHIS, NICHOLAS HUTCHINS, IVAN MARUSIC, The University of Melbourne — Previous observations made by Hutchins and Marusic (*Phil. Trans. R. Soc. A*, **365**, 2007) have shown a close relationship between the small inner-region motions and large-scale structures in high Reynolds number turbulent boundary layers. Here, we study this effect more fully employing Hilbert transformations of the spectrally filtered small-scale component of fluctuating velocity signals. The results show strong evidence that the near-wall cycle resides under a non-linear influence, very close to a pure amplitude modulation, of the large-scale log-region motions. The modulation effect is seen to increase with increasing Reynolds number. Experimental data is considered over three orders of magnitude in Reynolds number.

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