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Scaling and interactions of inner and outer regions in wall-bounded turbulence ROMAIN MATHIS, NICHOLAS HUTCHINS, IVAN MARUSIC, University of Melbourne, UNIVERSITY OF MELBOURNE TEAM — Recent investigations in wall-bounded turbulent flows have shown a nonlinear scale interaction, whereby the large-scale motion amplitude modulates the small-scale structures (Mathis *et al.*, *J. Fluid Mech.* 628, 2009). Here, we present a comparison of the amplitude modulation effects between channels/pipes and boundary layers. It is found, that despite different large-scale structures in these internal and external wall-bounded flows, the amplitude modulation effects remain invariant in the inner region, whereas subtle differences appear in the outer region. Further details will be given on the close relationship between the wall-normal evolution of the amplitude modulation coefficient and the skewness as recently pointed out by Schlatter and Orlu (*Phys. Fluids* 22, 2010). Scaling issues related to the inner and outer regions will also be considered by using a scale-decomposition approach.

Ivan Marusic
University of Melbourne

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