Abstract Submitted
for the DFD19 Meeting of
The American Physical Society

Characteristics of the so-called uniform momentum zones and vortical fissures in a turbulent boundary layer downstream of an adverse pressure gradient ALIREZA EBADI, CHRISTOPHER WHITE, University of New Hampshire — Particle image velocimetry (PIV) data acquired in a turbulent boundary layer downstream of an adverse pressure gradient at high Reynolds number is analyzed to study the characteristics of the so-called uniform momentum zones (UMZs) and vortical fissures (VFs) in the inertial region of the flow (where the viscous forces are subdominant). These characteristics, which include the wall-normal width of the UMZs and VFs, the velocity jump and vorticity across VFs, among others, are compared to those of the zero pressure gradient boundary layer at similar Reynolds number at the same facility.

Alireza Ebadi
University of New Hampshire

Date submitted: 31 Jul 2019 Electronic form version 1.4