

Abstract Submitted  
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**Large-eddy simulation of wall-bounded turbulent flows using a virtual-wall model** DANIEL CHUNG, DALE PULLIN, California Institute of Technology — We will present results obtained from large-eddy simulation (LES) of incompressible channel flow using an extended form of the stretched-vortex subgrid-scale model together with a closure developed specifically for the near-wall region of wall-bounded turbulent flows. Our wall model combines filtering of the Navier-Stokes equations over the near-wall region with an assumption of local inner scaling in a way that couples a wall-closure equation directly to the outer-flow LES. This provides a fluctuating, slip-flow boundary condition at a “virtual wall” near the bottom of the log-law region. LES results will be presented and compared with both DNS and experiment at large  $Re_\tau$ .

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