

Abstract Submitted  
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**A Computational Parametric Study of Drag Reducing Riblet Geometries** AARON BOOMSMA, FOTIS SOTIROPOULOS, Univ. of Minnesota — Riblets are micro-grooved films that passively affect the skin friction of a turbulent boundary layer. Many researchers have shown that riblets can augment or decrease drag. This work utilizes high-resolution direct numerical simulations at low Reynolds numbers to conduct a parametric study of those riblets that decrease drag. Insights on drag reduction due to geometry are revealed for a variety of riblet heights, spacings, and shapes. Finally, this work discusses flow physics of the modified turbulent boundary layer and mechanisms of drag reduction. This work was supported by the Department of Energy (DE-EE0002980) and the University of Minnesota Initiative for Renewable Energy and the Environment. Computational resources were provided by the University of Minnesota Supercomputing Institute.

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