A One-Equation Subgrid-Scale Estimation Model for Large-Eddy Simulation NOMA PARK, KRISHNAN MAHESH, University of Minnesota — We discuss a SGS model which attempts to not only model the subgrid stress, but also determine the subgrid velocity. The model has no adjustable coeffcients, does not require the use of finer grids, and does not require defiltering. The subgrid velocity is related to the resolved non–linear terms, and dissipation obtained from the dynamic Smagorinsky model, and subgrid kinetic energy obtained from its transport equation are imposed as constraints. The proposed model is validated through *a priori* and *a posteriori* tests on Burger's equation, decaying isotropic turbulence, and turbulent channel flow.

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