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**Turbulent modeling for low speed compressible flow** CHUNG-GANG LI, National Chiao Tung University, Taiwan, J.A. DOMARADZKI, University of Southern California, WUSHUNG FU, National Chiao Tung University, Taiwan — An investigation of turbulence models at high Reynolds numbers is conducted. The numerical code uses the Roe scheme and preconditioning matrix and dual time stepping are adopted for economizing the computational time and improving convergence properties. In order to validate the code, DNS of the turbulent channel flow are performed at Reynolds numbers, based on the friction velocity, of 180 and 500. The results for the mean velocity profiles and turbulent intensities are in good agreement with the benchmark DNS data obtained by spectral codes. The same code is used to perform LES with different models, among them the classical Smagorinsky model and the Truncated Navier Stokes (TNS) method, and comparisons are made with databases for high friction velocity Reynolds numbers of 1000 and 2000.

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