Analysis of DNS database of canonical shock/turbulence interaction JOHAN LARSSON, Stanford University — A set of databases generated by direct numerical simulation of isotropic turbulence passing through a shock wave is analyzed. Averages conditioned on the local instantaneous shock strength are used to elucidate the structure of the shock/turbulence interaction through the strongest and weakest points on the shock. For sufficiently strong turbulence there exists completely smooth profiles through the shock-region. The unsteady shock-motion is analyzed and linked to the incoming turbulence.

Johan Larsson
Stanford University

Date submitted: 06 Aug 2009   Electronic form version 1.4