

A relaxation approach for modeling turbulence in compressible flows

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In this talk, a thermodynamical approach for modeling turbulence in compressible flows will be presented. Modeling of multi-component flows following a thermodynamical (homogeneous) point of view is known to ensure that the resulting models inherit from several very important mathematical properties such as : hyperbolicity, entropy inequality and uniqueness of the definition of the shocks through Rankine-Hugoniot relations. This last property is difficult to obtain when considering the classical approach for modeling turbulence and it will be shown that thermodynamical modeling can help to tackle this point.

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