

# COMPRESSIBLE NAVIER-STOKES EQUATIONS WITH TEMPERATURE DEPENDENT DISSIPATION

RONGHUA PAN  
GEORGIA TECH

From its physical origin, the viscosity and heat conductivity in compressible fluids depend on absolute temperature through power laws. The mathematical theory on the well-posedness and regularity on this setting is widely open. I will report some recent progress made on this direction, with emphasis on the lower bound of temperature, and global existence of solutions in one or multiple dimensions. The relation between thermodynamics laws and Navier-Stokes equations will also be discussed. This talk is based on joint works with Weizhe Zhang.