

Abstract Submitted
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Shock waves and quantum limited transport ROGER MINICH,
Lawrence Livermore National Laboratory — Universal transport in strongly coupled systems with viscosity to entropy density ratios approaching a minimum value will affect the shape of a stationary shock. The rate of heat transport cannot be arbitrarily large, but is limited by universal quantum limited transport. This limits the rise time of the shock and determines the shock structure in general. Scaling laws are developed and compared with experiment. A comparison between the derived scaling laws and experiment over a wide range of rise times from microseconds to picoseconds in the case of the ultrafast laser driven shocks. The relationship to AdS/CFT duality is also discussed.

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