

# BOSE COLLOQUIUM

## (Through Webinar)

**Date**  
12 March, 2021



**Time**  
4.00 PM (IST)



**Webinar Link**

**YouTube Link**



*Speaker*

**Abhishek Dhar**

*Professor*

*International Centre for Theoretical Sciences, TIFR, Bangalore*

*Title of the talk*

**Blast in the one-dimensional cold gas: From Newton to Euler and Navier-Stokes-Fourier**

**Abstract**

It is known that a gas composed of a large number of atoms following Newtonian dynamics can be described by the continuum laws of hydrodynamics. Proving this rigorously is one of the outstanding open problems in physics and mathematics. Surprisingly, precise numerical demonstrations of the equivalence of the hydrodynamic and microscopic descriptions are rare.

The talk will discuss recent numerical tests of this equivalence in the context of the classic problem of the evolution of a blast-wave, a problem that is expected to be at the limits where hydrodynamics would work.

**Organized as part of Golden Jubilee Celebration of Department of Science and Technology (DST)**  
**S. N. Bose National Centre for Basic Sciences**

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