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Revised (*)

THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON APPLIED MATHEMATICS

Sharp Interface Limit for Compressible Immiscible Two-Phase Dynamics with Relaxation

By

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Abstract

In this talk, the compressible immiscible two-phase flow with relaxation is investigated, this model can be regarded as a natural modification of Jin-Xin relaxation scheme proposed and developed by S.Jin and Z.P.Xin([Comm.Pure Appl.Math., 48,1995]) in view of the numerical approximation of conservation laws. Given any entropy solution consists of two different families of shocks interacting at some positive time for the standard two-phase compressible Euler equations, it is proved that such entropy solution is the sharp interface limit for a family global strong solutions of the modified Jin-Xin relaxation scheme for Navier-Stokes/Allen-Cahn system, here the relaxation time is selected as the thickness of the interface, weighted estimation and improved antiderivative method are used in the proof.

Date : 13 July 2023 (Thursday) *

Time : 3:00pm – 4:00pm *

Venue : Room 3472 (Lifts 25/26)

All are Welcome!