

Seminari di Matematica

Nell'ambito delle attività seminariali del Dipartimento di Matematica,
su proposta del Prof. Roberto Garrappa

il Prof. Dr. Andreas Meister, (University of Kassel, Dept. of Mathematics and Natural Sciences, Germany)
terrà presso il Dipartimento di Matematica
dell'Università degli Studi di Bari Aldo Moro,
la seguente conferenza:

Asymptotic Analysis and Numerical Methods for Compressible Flows at all Mach Numbers
Il 25 luglio 2024, alle ore 11.00 in aula XI

Abstract

We will present a comprehensive study of a finite volume method for inviscid and viscous flow fields at high and low speeds. Thereby, the results of a formal asymptotic low Mach number analysis are used to extend the validity of the numerical method from the simulation of compressible flow fields at transonic as well as supersonic speed to the low Mach number regime. To overcome the well-known failure of compressible numerical method in the low Mach number regime we combine the numerical flux function with a preconditioned formulation. Both, a wide variety of trans-, super-, hyper-, and subsonic realistic test cases as well as a formal discrete asymptotic analysis are employed in order to prove the validity of the derived numerical method from hypersonic to low Mach number fluid flow

La S.V. è cordialmente invitata a partecipare.

Bari, 25 luglio 2024

Prof.ssa Anna Maria Candela

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