

INSALATE DI MATEMATICA

presents

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Entropy Residual Indicator for Finite Volume schemes



Abstract:

In this talk I will give an overview of the role of entropy in the numerical approximation of conservation laws. It's well known that weak solutions may not be unique, but the physically relevant ones always satisfy an entropy inequality. In particular, we are interested in the residual of this inequality, which represents the numerical entropy production by the numerical scheme. In the first part of this talk I will present the properties of entropy in the classical Runge-Kutta finite volume setting. In the second part I will introduce finite volume ADER schemes and I will extend the definition of the numerical entropy production to this case. Finally, I will give an example of application.

Keywords: conservation laws · finite volume schemes · ADER schemes · numerical entropy

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04:30 pm (CET)



*"Obvious" is the most dangerous word in mathematics.
(Eric Temple Bell)*