

Analysis of numerical schemes for semiconductor energy-transport models.

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Abstract

This talk is devoted to the construction and analysis of finite volume schemes for semiconductor energy transport models. Using a reformulation in dual entropy variables, we can show the decay of a discrete entropy with control of the discrete entropy dissipation. We establish a priori estimates which lead to existence of approximate solutions. After considering the TPFA framework, we propose an extension to the DDFV framework, allowing to consider more general meshes.

This is a joint work with C. Chainais-Hillairet, G. Lissoni and H. Mathis.