

Derivation of multiphase flow models

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In this talk, we focus on the modelling of flows containing several species that are mixed at a scale smaller than observation. A classical challenge is to derive well-posed equations that are consistent with mechanical/thermodynamical principles [1]. We describe a new method for the derivation of models for such systems based on the analysis of oscillations in fluid equations for single-phase fluids. The results presented in this talk have been obtained in collaboration with D. Bresch [2, 3].

Références

- [1] M. ISHII, T. HIBIKI, *Thermo-fluid dynamics of two-phase flow*, Springer, 2006.
- [2] D. BRESCH, M. HILLAIRET, *Note on the derivaiton of multi-component flow system*, Proc. Amer. Math. Soc., (143)3429–3443, 2015.
- [3] D. BRESCH, M. HILLAIRET, *A compressible multifluid system with new physical relaxation terms*, Annales Scientifiques de l'ENS, In Press.