

Local theory for thick spray equations

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Abstract

We consider a cloud of droplets immersed within a gas, in the so-called “thick spray” regime. In this context, the volume fraction for the dispersed phase is not negligible compared to that of the fluid. Due to the coupling between both phases, this system displays several losses of derivatives. In particular, and contrary to some other fluid-kinetic models, its rigorous study is almost completely absent.

I will briefly present the framework in which these equations appear and some of the obstacles that may arise in their study.