

Modelling elementary processes in dispersed multiphase flows

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In both point-particle approaches (Euler/Euler and Euler/Lagrange) closures and models are required to describe transport processes on the particle scale, such as turbulent transport, inter-particle collisions, wall collisions with roughness or even the motion of non-spherical particles. Therefore the presentation will be restricted to a Lagrangian modelling of these processes. Specifically models will be introduced for:

- wall collisions of spherical particles with wall roughness
- inter-particle collision models including detection, impact efficiency and agglomeration
- collision of droplets and models for the collision outcomes
- modelling of bubble dynamics and tumbling motion in the frame of a point-particle approximation

Partly the derivation of the models is associated with detailed experiments.

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