

Multiphase flows

Session organizers

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Description

The session is devoted to show improvements on models for solving multiphase flows, and on the application of these models to problems of academic or industrial interest. By multiphase or multicomponent flow we understand the flow of a composite fluid, that is, the flow of non-homogeneous, fluid materials, chemically and or physically distinct, coexisting in more than one phase. Multicomponent flows are found in many processes, both natural and artificial. Natural processes include entrainment and transport of air in oceans, lakes and rivers; formation, movement and condensation of clouds; flow of blood in capillaries and small arteries; sedimentation in rivers; etc. Among the artificial processes, industries are full of examples of multicomponent flows: fluidized beds in chemical reactors; coolant systems in thermal power plants, such as those existing in nuclear reactor components (e.g. fuel elements, steam generators, condensers, etc.) at normal and accidental conditions; injection of air in pools for water treatment; recovery of oil and gas in hydrocarbon reservoirs; etc.