DTPF 2020 â€“ Ã‰coulements diphasiques dispersÃ©s

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APPEL Ã€ COMMUNICATION

In many industrial or environmental situations, particles, drops or bubbles are dispersed in a carrier fluid. Understanding and modeling dispersed flows is therefore a major issue for many applications including chemical engineering (bubble columns, water treatment, fluidized beds, oil refining), nuclear industry (boiling in steam generators, containment spray systems), environmental engineering (sediment transport, coastal erosion, river restauration), geophysics (volcanic processes, fluid migration in sedimentary basins), astrophysics (protoplanetary dust, planet formation) and combustion applications (atomization, spray combustion).

The objective of the conference is to bring together researchers from different communities (academics and researchers from industrial research institutes in fluid mechanics, chemical engineering...) working on fundamental problems involving dispersed flows. Experimental, numerical and theoretical studies will be presented on the following topics: 1. Dynamics and transfer around isolated particles; 2. Interfacial dynamics (deformation, coalescence and rupture); 3. Hydrodynamics of dispersed flows (turbulence, dispersion, two-way coupling); 4. Mixing, transfers and phase-change in dispersed flows; 5. Transport in dispersed flows at high volume fraction; 6. Complex dispersed flows: density/viscosity stratification, granular & non-Newtonian flows ; 7. Development of experimental methods; 8. Development of numerical methods; 9. Multiscale, multiphysics modeling.

Abstract submission