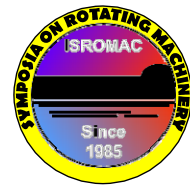


# Particle production and treatment in vortex chamber-generated rotating fluidized beds

Thomas Tourneur & Juray De Wilde, Université catholique de Louvain, Materials and Process Engineering (IMAP), Place Sainte Barbe 2, 1348, Louvain-la-Neuve, Belgium, [juray.dewilde@uclouvain.be](mailto:juray.dewilde@uclouvain.be)

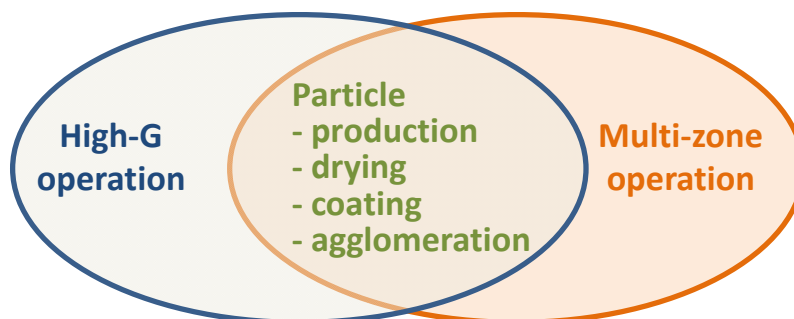


Long Abstract

## Summary

High-G operation in rotating fluidized beds allows intensifying interfacial transfer of mass, heat and momentum. The latter allows generating dense and uniform rotating fluidized beds at high gas-solid slip velocities and the fluidization and treatment of fine, cohesive particles. Multi-zone operation is possible and opens perspectives for combining different unit operations or increasing energy efficiency.

After an introduction on the main characteristics of vortex chamber generated rotating fluidized beds, different drying applications are discussed, i.e. drying, coating and agglomeration of particles and spray drying. Specific aspects of each application are dealt with. The influence of the main design parameters and operating conditions is addressed and the process intensification potential evaluated.



**Figure 1.** High-G operation in vortex chambers and different applications considered.