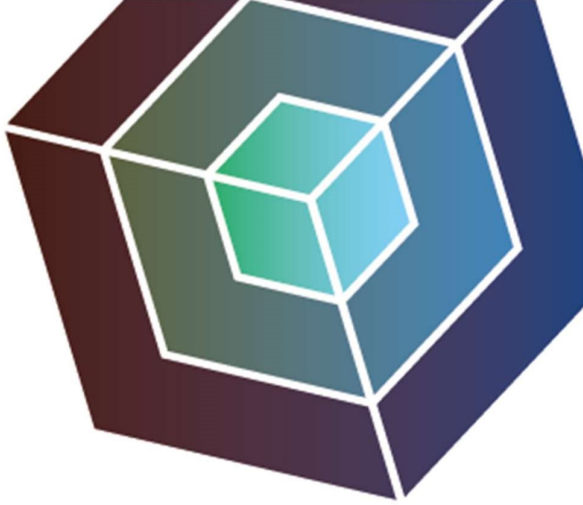

Abstract: Application of DNS in Fluidization and Fluid Particle Systems Research

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Numerical modeling of the phenomena in multiphase flows is today a necessary stage when developing or improving materials, technology as well as processes. Model development is based on the understanding of the basic physical phenomena. For this purpose, Direct Numerical Simulations (DNS) constitute a powerful tool to understand fundamental physics and to interpret some experimental observations. This presentation gives some examples of DNS study of multiphase flow systems such as in fluidized beds and bubble columns.