998-65-322 **T.-W. Pan*** (`pan@math.uh.edu`), Department of Mathematics, University of Houston, Houston, TX 77204, and **R. Glowinski** (`roland@math.uh.edu`), Department of Mathematics, University of Houston, Houston, TX 77204. *The direct numerical simulation of non-smooth shape particles settling in incompressible viscous fluid.* Preliminary report.

In this talk we will investigate the numerical treatment for the direct numerical simulation of particles of non-smooth shape, such as rectangle in 2D and truncated cylinder in 3D, settling in incompressible viscous fluid. The methodology is based on the combination of distributed Lagrange multiplier/fictitious domain method, finite element method and operator splitting. Preliminary results will be presented. (Received March 01, 2004)