Abstract Submitted
for the DFD10 Meeting of
The American Physical Society

The immersed interface method for 3D rigid objects in a flow[1]
SHENG XU, Southern Methodist University — In the immersed interface method, an object moving in a fluid is treated as the fluid enclosed by a singular force, and the singular force enters numerical schemes through jump conditions. In this talk, I will present a boundary condition capturing approach to determine the singular force for a 3D moving rigid object. Unlike many *ad hoc* penalty approaches, this approach is explicit but numerically stable. I will demonstrate its accuracy, stability and efficiency using flow due to an oscillating sphere/torus and flow due to a flapping wing.

[1]This work is supported by the NSF grant DMS 0915237.

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Date submitted: 05 Aug 2010 Electronic form version 1.4