

Abstract Submitted
for the DFD10 Meeting of
The American Physical Society

The motion and the forces on a cylinder and a sphere in rotating shear flow YOSHIYUKI TAGAWA, CHAO SUN, The University of Twente, TOM MULLIN, Manchester Centre for Nonlinear Dynamics, LEEN VAN WIJNGAARDEN, DETLEF LOHSE, The University of Twente — The motion and rotation rate of a heavy cylinder and sphere inside a rotating drum were investigated. The drum, filled with distilled water, was rotating around its horizontal axis with varying rotation rates. The cylinder was observed to either co- or counter-rotate with respect to the rotating drum. The motion of the cylinder depends not only on the radius of the cylinder, but also on its length. The flow around the cylinder was measured with particle image velocimetry (PIV). Results on spheres with different radii will also be presented.

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Date submitted: 26 Jul 2010

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