

Abstract Submitted  
for the DFD06 Meeting of  
The American Physical Society

**The motion of an ellipsoid in a rotating Stokes flow** JAMES SEDDON, TOM MULLIN, Manchester Centre for Nonlinear Dynamics, University of Manchester, Oxford Road, Manchester, M13 9PL, UK. — Experimental observations of the motion of ellipsoids in a rotating horizontal drum, fully filled with very viscous fluid, have been recorded. For a given drum speed an ellipsoid lies adjacent to the rising drum wall at a fixed position, with its long axis  $a$  parallel to the direction of wall motion. For ellipsoids with maximum radius of curvature less than that of the drum wall, the positions at which they lie appears to be independent of  $a$ . Ellipsoids with maximum radius of curvature greater than that of the drum wall tilt with respect to the direction of drum motion and then undergo lateral translations from end to end of the drum.

James Seddon  
Manchester Centre for Nonlinear Dynamics,  
University of Manchester, Oxford Road, Manchester, M13 9PL, UK.

Date submitted: 05 Aug 2006

Electronic form version 1.4