1023-34-422 **Dmitry Pelinovsky*** (dmpeli@math.mcmaster.ca), Dmitry Pelinovsky, Department of Mathematics, McMaster University, Hamilton, Ontario L8S 4K1, Canada. *Stability of incompressible viscous fluid flows.*

Linearized stability of incompressible viscous fluid flows in a thin spherical shell is studied by using the two-dimensional Navier–Stokes equations on a sphere. The stationary flow on the sphere has two singularities (a sink and a source) at the North and South poles of the sphere. We prove analytically for the linearized Navier–Stokes equations that the stationary flow is asymptotically stable. When the spherical layer is truncated between two symmetrical rings, we study eigenvalues of the linearized equations numerically by using power series solutions and show that the stationary flow remains asymptotically stable for all Reynolds numbers. (Received September 12, 2006)