1138-35-152   **Ken Abe*** (`kabe@sci.osaka-cu.ac.jp`). *Axisymmetric flows in an exterior domain.*
We consider the three-dimensional Navier-Stokes equations for axisymmetric initial data. It is known that the Cauchy problem is globally well-posed for large axisymmetric initial data in L_3 with finite energy, if the swirl component of initial velocity is identically zero (with no swirl). However, unique solvability is unknown in general for the case with swirl. In this talk, we study axisymmetric flows with swirl in an exterior domain subject to the slip boundary condition. We report unique existence of global solutions for large axisymmetric data in L_3 with finite energy, satisfying a decay condition of the swirl component. This talk is based on a joint work with G. Seregin (St. Petersburg/ Oxford U.). (Received February 07, 2018)