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**Dongjuan Niu\*** ([niuniudj@gmail.com](mailto:niuniudj@gmail.com)), School of mathematical sciences, Capital Normal University, Beijing, 100048, Peoples Rep of China. *The behavior of helical flow at the limit of their parameters.*

It is well-known that the three-dimensional Navier-Stokes equations are invariant under helical symmetries, namely, they possess a family of solutions of the form  $u(r, \kappa\theta + \alpha z)$  in the cylindrical coordinates. The talk investigate the limit behavior of the helical flows, which are known to be globally well-posed, to their two-dimensional limits as the viscosity and the corresponding helical parameters tend to zero. (Received March 07, 2011)