



Speaker: Chun-Hsiung Hsia
National Taiwan University, Taiwan

Friday, July 27, 2012
3:00 PM
258 Hurley Hall

Title: Time periodic solutions of the Primitive equations of the large-scale ocean

Abstract:

This is a joint work with Ming-Cheng Shiue. For several decades, concerning the long time behavior of fluid motion, the time periodic flows have become an important type of flow patterns. In 1959, Serrin proposed a very heuristic method for proving the existence of asymptotic stable periodic solutions of the Navier-Stokes equations with small periodic forcing terms under suitable assumptions. Namely, in such case, one may prove that every small (in a suitable sense) solution would converge to a time periodic solution (with the same period as the non-trivial forcing term). In this article, we prove the existence of time periodic solution for the 3-D primitive equation with suitable time periodic forcing condition. Some related asymptotic behaviors of the solutions are also demonstrated.