



PIMS / AMI Seminar

Monday, April 16, 2012

3:00 p.m.

CAB 281



“Bifurcation of solutions for the Navier-Stokes system”

Dong Li

Department of Mathematics
University of British Columbia

Abstract

I will explain some recent results (joint work with Ya.G. Sinai) on the bifurcation of solutions to the Navier-Stokes system. We consider the stream function and construct a set of initial data such that initial critical points bifurcate from 1 to 2 and then to 3 critical points in finite time. The bifurcation takes place in a small neighborhood of the origin. Our construction does not require any symmetry assumptions or the existence of special fixed points. For another set of initial data we show that 3 critical points merge into 1 critical point in finite time. We also construct a set of initial data so that bifurcation can be generated by the Navier-Stokes flow and do not require the existence of an initial critical point.

Refreshments will be served in CAB 649 at 2:30 p.m.