Analysis Seminar

Conically Singular Solution in Semilinear Elliptic Equations

Professor Yong YU
The Chinese University of Hong Kong

Abstract

In this talk we will firstly introduce the conically singular solution in the prescribed Gaussian curvature problem. Then I will introduce a new Born-Infeld approximation scheme to re-prove this classical result. This method will finally be generalized to a class of semilinear elliptic equations with exponential nonlinearities, in which Chern-Simons-Higgs equation and gauged harmonic map equation are included. New conically singular solutions are found in these two physical models. Interestingly, we obtain a finite-energy solution to the Born-Infeld gauged harmonic maps, which admit finitely many magnetic singularities.

Date: September 19, 2017 (Tuesday)
Time: 11:00am – 12:00noon
Venue: Room 210, Run Run Shaw Bldg., HKU

All are welcome