

THE UNIVERSITY



OF HONG KONG

*Institute of Mathematical Research
Department of Mathematics*

Analysis Seminar

Conically Singular Solution in Semilinear Elliptic Equations

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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