



The Hong Kong University of Science and Technology

Department of Mathematics

Mathematics Colloquium

The Extremal Kahler Metrics on Toric Manifolds

By

Prof. An-Min Li

Department of Mathematics, Sichuan University

Abstract

We study the prescribed scalar curvature problem on toric manifolds. We will show that the uniform stability introduced by Donaldson is a necessary condition for existing a smooth solution for any dimension n . For the case $n=2$ we prove that this condition is also sufficient. More precisely, we prove the following theorem:

Theorem Let M be a compact toric surface and Δ be its Delzant polytope. Let $K \in C^\infty(\bar{\Delta})$ be an edge-nonvanishing function. If (M, K) is uniformly stable, then there is a smooth T^2 -invariant metric on M that solves the Abreu equation.

This talk is based on the joint works with Bo-hui Chen and Li Sheng.

Date: Friday, 10 February 2012

Time: 4:30p.m.-5:30p.m.

***Venue: Room 3416, Academic Building,
(near Lifts 17 & 18), HKUST***

All are welcome!