Institute of Mathematical Research
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Hong Kong Geometry Colloquium
April 18, 2009 (Saturday)
Room 517, Meng Wah Complex, HKU

Dr. Sui Chung Ng
The University of Hong Kong

On holomorphic isometries of Kähler manifolds

10:00 – 11:00am

Abstract

The problem of isometric embeddings is classical in Riemannian geometry. In the context of Kähler manifolds, the seminal work is due to Calabi in 1953. More recently, originating from a problem in arithmetic geometry, Clozel and Ullmo were led to study holomorphic isometries of bounded symmetric domains. In this talk, after briefly introducing the subject and recent work along this line initiated by Mok, we will talk about results on the classification problem of holomorphic isometries of the unit disk into polydisks.

11:00 – 11:20am   *Tea Break*

Professor Xiangdong Li
Fudan University

Comparison geometry of the Bakry-Emery Ricci curvature on complete Riemannian manifolds

11:20am – 12:20pm

Abstract

In 1984, D. Bakry and M. Emery introduced the notion of the Ricci curvature associated with a weighted Laplacian on a Riemannian manifold. It has been an important tool in the study of functional inequalities on Riemannian manifolds with weighted measures.

In this talk, we will present some geometric applications of the Bakry-Ricci curvature. We establish some Liouviile type theorems, heat kernel estimates and prove two generalisations of the Cheeger-Gromoll splitting theorem on complete Riemannian manifolds via the Bakry-Emery Ricci curvature.

This meeting is hosted by the Institute of Mathematical Research, HKU.

All are Welcome