

Mini-workshop on Geometric Analysis (II)

Conformally compact Einstein manifolds and related topics

Xiamen University

Nov. 24, 2018

Time	Speaker	Title
9:30 – 10:30	Mijia Lai Shanghai Jiao Tong University	On conformal sphere theorems and beyond
10:30 – 11:00	break	
11:00 – 12:00	Fang Wang Shanghai Jiao Tong University	Some eigenvalue estimates for fractional GJMS operators and rigidity of Poincare-Einstein manifold
12:00 – 14:30	break	
14:30 – 15:30	Shiguang Ma Nankai University	n-Laplacian equation and Ricci curvature.

(厦门大学海韵园实验楼 105 报告厅)

Abstracts

Mijia Lai (Shanghai Jiao Tong University)

Title: *On conformal sphere theorems and beyond.*

Abstract: I will survey various sphere theorems under integral curvature conditions. Much of the study was motivated by the celebrated conformal 4-sphere theorem of Chang-Gursky-Yang. I will also report on the recent work of Chang-Gursky-Zhang: a conformally invariant gap theorem characterizing CP^2 .

Shiguang Ma (Nankai University)

Title: *n-Laplacian equation and Ricci curvature.*

Abstract: This is a joint work with Professor Jie Qing. Recently, we found the relationship between n -Laplacian equation and Ricci curvature in two different settings. The behavior of isolated singularity of n -superharmonic functions can describe the end structure of a noncompact manifold with nonnegative Ricci. We get theorems about the isolated singularity of n -superharmonic functions, which are applied to two different geometric problems.

Fang Wang (Shanghai Jiao Tong University)

Title: *Some eigenvalue estimates for fractional GJMS operators and rigidity of Poincare-Einstein manifold*

Abstract: In this talk, I will introduce the fractional GJMS operators defined on the conformal infinity of Poincare-Einstein manifolds and give some estimates regarding to the first eigenvalue of them. Some rigidity theorem will also be proved when the extremal value is achieved.