



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

PHD STUDENT SEMINAR

Large singular solutions for conformal Q-curvature equations on S^n

By

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Abstract

We study the existence of positive functions K in $C^1(S^n)$ such that the conformal Q-curvature equation $P_m(v) = K v^{n^*}$ on S^n has a singular positive solution v whose singular set is a single point, where m is an integer satisfying $1 \leq m < n/2$ and P_m is the intertwining operator of order $2m$. More specifically, we show that when $n \Rightarrow 2m + 4$, every positive function in $C^1(S^n)$ can be approximated in the $C^1(S^n)$ norm by a positive function K in $C^1(S^n)$ such that the equation has a singular positive solution whose singular set is a single point. Moreover, such a solution can be constructed to be arbitrarily large near its singularity.

Date : 21 April 2021 (Wednesday)
Time : 10:00am
Zoom Meeting : <https://hkust.zoom.us/j/97977020004> (Passcode: 188)

All are Welcome!