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Joint Geometric Analysis Seminar

(Part of MIST program)

Special Lagrangian spheres in adiabatic limits

Dr. Shih-Kai Chiu

Vanderbilt University

Abstract

In the 80s, Harvey and Lawson defined special Lagrangians as certain volume minimizing submanifolds in Calabi-Yau manifolds. Fast forward to today, special Lagrangians now play an important role in the SYZ conjecture arising from mirror symmetry and are conjectured to represent stable objects in the Fukaya category of the Calabi-Yau manifold. In this talk I will describe a gluing construction of special Lagrangian 3-spheres in a collapsing Calabi-Yau 3-fold fibred by K3 surfaces. As the fibre size shrinks to 0, the special Lagrangian 3-spheres collapse to a "line segment" in the base. This is joint work with Yu-Shen Lin.

Date: December 18, 2023 (Monday)
Time: 10:30am-11:30am
Venue: AB1 502a

All are Welcome