GEOMETRIC ANALYSIS SEMINAR

Speaker: Kai-Wei Zhao
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Date: Thursday, March 21, 2024
Time: 11:00 AM
Location: 258 Hurley Bldg
Zoom URL: NA

Lecture Title:

On the blowup of regularized solutions to the Jang equation and constant expansion surfaces

 Abstract

Schoen-Yau proved the spacetime positive energy theorem by reducing it to the time-symmetric (Riemannian) case using the Jang equation. To acquire solutions to the Jang equation, they introduced a family of regularized equations and took the limit of regularized solutions, whereas a sequence of regularized solutions could blow up in some bounded regions enclosed by apparent horizons. They analyzed the blowup behavior near and outside the apparent horizons, but what happens inside remains unknown. In this talk, we will talk about the blowup behavior inside apparent horizons through two common geometric treatments: dilation and translation. We will also talk about the relation between the limits of blowup regularized solutions and constant expansion surfaces.

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