

## **abstract**

Analysis Seminar  
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

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I present a new, fully anisotropic, criterion for formation of trapped surfaces in vacuum obtained in collaboration with J. Luk and I. Rodnianski. We provide conditions on null data, concentrated in a neighborhood of a short null geodesic segment (possibly flat everywhere else) whose future development contains a trapped surface. This extends considerably the previous result of Christodoulou which required instead a uniform condition along all null geodesic generators. To obtain our result we combine Christodoulou's mechanism for the formation of a trapped surface with a new deformation process which takes place along incoming null hypersurfaces.