

## Analysis Seminar

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A Non-Isotropic Mechanism for the Formation of Trapped Surfaces

**Series:** Analysis Seminar

Sergiu Klainerman

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**Date & Time:** Tue, 04/30/2013 - 15:00 - 16:00

**Location:** S-101

**Video Link:**

<http://video.ias.edu/analysis/1213/0430-SergiuKlainerman>

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.

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Thu, 04/25/2013 - 13:06

Mon, 04/29/2013 - 20:16

terms:

- [School of Mathematics](#)