The Math/Stats Colloquium
Department of Mathematics and Statistics
San José State University

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The Wave Equation on Black Hole Spacetimes
OCTOBER 25, 2017, MH320

Abstract: In this talk we will discuss the decay properties of solutions to the Wave equation $-\partial_t^2\phi + \Delta\phi = 0$. By pairing calculus methods and geometric insight, we show how one can provide a precise description of the long-time behavior of solutions to this equation. We also discuss how this type of analysis can applied to study the propagation of light waves on curved spacetimes. This allows us to investigate the behavior of light near the event horizon of a Black Hole.

Background: Multivariable calculus (Math 32).

About the speaker: Jesús Oliver received his Ph.D. from UCSD and is an assistant professor at CSU East Bay. His primary research interests are in the field of Mathematical General Relativity; specifically, his research applies techniques from partial differential equations to study the formation and evolution of Black Hole singularities. He is also interested in the development and implementation of active learning techniques in the Mathematics classroom and undergraduate student research in Mathematics.

SNACKS IN MH331B AT 2:30 PM
TALK STARTS AT 3:00 PM

For more information, see our full schedule at:

http://www.math.sjsu.edu/~hsu/colloq/