PHYSICS AND ASTRONOMY
SEMINAR

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"Stars, Black Holes and Superconductors"

Abstract

Charged black holes in planar AdS can be unstable to the formation of charged scalar hair. Through holography, one hopes to use this fact to uncover general principles governing unconventional superconductors. It has been shown however that the behaviour of `holographic superconductors' depends strongly on their embedding into string/M-theory.
In this talk I will discuss two aspects of this issue in which progress can be made. First I will demonstrate how the ground states of these systems may be found by blowing up stars in global AdS, then I will hunt for the instability of highest temperature in a wider consistent truncation of supergravity. Both aspects raise concerns that a new approach to the problem is needed.

Thursday, November 15, 2012
1:00 p.m.
Clearihue Building
Room A207