

Seminar

Dr. Gilbert Weinstein

Ariel U

Bi-axisymmetric stationary solutions to the vacuum Einstein equation with non-spherical horizons

Thursday, August 10, 2017

at 15:30 h

ESI, Boltzmann Lecture Hall

Abstract: In the last 15 years, there has been much progress on higher dimensional solutions to the Einstein equation, much of it from the physics community. They are particularly interesting as, unlike 4 dimensional spacetimes, the horizon is no longer restricted to being diffeomorphic to the sphere, as demonstrated by the celebrated black ring solution of Emparan and Reall. Using the Weyl-Papapetrou coordinates and harmonic maps, we show the existence of stationary solutions to the 5 dimensional vacuum Einstein equation, which are bi-axisymmetric solutions with lens space horizons. This is a joint project with Marcus Khuri and Sumio Yamada.

P. Chruściel

August 8, 2017