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Exotic Marginally Outer Trapped Surfaces are unstable

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Black holes stand as enigmatic phenomena within our universe, yet their precise definition presents a big challenge. The original definitions are only useful in static situations since they rely on global properties (we need to know the history of the whole universe to detect a black hole!). Marginally outer trapped surfaces (MOTS) were introduced in an effort to provide a quasilocal definition of a Black Hole. In recent years, they have turned out to be essential to studying certain aspects of the merger of black holes. In this talk, I will show how some classical tools from differential geometry and functional analysis can shed light on the relation between symmetry and stability of MOTS.

Keyword-1

Black holes

Keyword-2

Stability

Keyword-3

Symmetry

Primary author: MARGALEF, Juan (Memorial University)

Presenter: MARGALEF, Juan (Memorial University)

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