CIDMA CENTRO DE I&D EM MATEMÁTICA E APLICAÇÕES
CENTER FOR R&D IN MATHEMATICS AND APPLICATIONS

universidade de aveiro

Gravitational Geometry and Dynamics Group Seminar

Wed., Oct. 11th, 2023, at 16h00.

Online, Zoom ID: 989 6252 0928 (*Password: contact graposo@ua.pt*)

Topological Solitons in Gravity

Pierre Heidmann

Ohio State University

I will discuss new degrees of freedom of gravity as motivated by string theory. Although they are expected to be generically quantum mechanical, classes of such states are coherent enough to admit classical descriptions in Einstein gravity.

I will explain how to describe them as novel ultra-compact geometries without horizon or singularity. These solitons of spacetime are referred to as *Topological Solitons*. I will discuss their potential role in quantum gravity to resolve astrophysical black holes.

Furthermore, in light of the emerging field of black hole astronomy, we will see how they can provide an interesting experimental window into the quantum aspects of gravity.

More about Gr@v
at: *gravitation.web.ua.pt*

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