

Submission for an invited session, organized by Ana Cristina Casimiro
& Paula Pascoal-Faria

Spacetime Singularities and the Weak Cosmic Censorship Conjecture

Leonel Queimada¹,

¹ University of California, Santa Bárbara, USA

General Relativity predicts its own breakdown through the existence of singularity theorems. The unavoidable existence of spacetime singularities, i.e. points where the theory of General Relativity becomes invalid, casts uncertainty over its predictability. In order to resolve this problem, Roger Penrose proposed the weak cosmic censorship conjecture. Roughly speaking, it asserts that spacetime singularities form only inside black holes, remaining causally disconnected from outside observers and hence preserving the predictability of General Relativity when applied to the latter. In this talk, we will give a brief overview of this conjecture, emphasizing the intersection between Lorentzian geometry and partial differential equations arising within it.