12 february 2020, Seminar 2nd floor, 17:00-18:00

Speaker: Ivan P. Costa e Silva (Federal University of Santa Catarina, Brasil)

Title: Topological restrictions in Lorentzian geometry: a survey

Abstract: It is well know that globally hyperbolic solutions (M,g) of the Einstein field equations in general relativity may have initial data Cauchy hypersurfaces with any topology. However, some restrictions on the fundamental group of M can arise from the causal structure if either all inextendible causal geodesics in (M,g) are complete or if one assumes that M has a boundary with suitable properties. I shall review a number of such "topological censorship" results and discuss some open issues.