



# GRAVITY: CHALLENGES BEYOND GENERAL RELATIVITY

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## The three-dimensional C-metric

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In this talk, we will focus on describing features of the C-metric in 2+1 dimensions. Starting from a general ansatz we construct three classes of geometries which can be interpreted by studying their physical parameters. From these, we identify stationary, accelerating point particles; one-parameter extensions of the BTZ family resembling an accelerating black hole; and a novel “accelerating BTZ geometry” not continuously connected to the BTZ black hole as well as some black funnel solutions. We will comment on the current understanding of the thermodynamics and holographic properties of these solutions with particular emphasis on the accelerating BTZ black hole.

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