

VII Leopoldo García-Colín Mexican Meeting on Mathematical and Experimental Physics



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PABLO LAGUNA: Space-time Curiosities: Inside the Final Black Hole and Geometrrobotics

Friday, 21 February 2020 11:30 (1 hour)

Modeling black hole as punctures in space-time is common in binary black hole simulations. As the punctures approach each other, a common apparent horizon forms, signaling the coalescence of the black holes and the formation of the final black hole. In the first part of the talk, I will present results about the fate of the merging punctures inside the final black hole. While most studies of locomotion treat the environment and the locomotor separately, there exist a class of self-propelled systems which change the environment so dramatically that a treatment of them as a single entity is more natural. In the second part of the talk, I will present results from a study of the dynamics of a robophysical car driving around a central depression in a deformable membrane showing that the robot propulsion can be recast as geodesics of a test particle in a fiducial space-time.

Session Classification: PLENARY TALKS

Track Classification: SYMPOSIUM ON BLACK HOLES AND GRAVITATIONAL WAVES