

PROBING PRIMORDIAL BLACK HOLES THROUGH THE STOCHASTIC GRAVITATIONAL WAVE BACKGROUND

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Primordial black holes are a hypothetical type of black holes that formed soon after the Big Bang. They have attracted wide interest for their ability to constitute dark matter and explain the observed gravitational wave events from two merging black holes, some of which have considerably large masses compared to the stellar-origin black holes known through electromagnetic observations.

In this talk, we will review how observation of the stochastic gravitational-wave background, formed by the ensemble of individual merging black hole events, can help to probe the primordial black holes. We will show that the difference in the merger rate and mass function of the black holes change the spectral shape and the duty cycle of the stochastic background, and future observations could help to distinguish whether the origin of black holes is astrophysical or primordial.

12.00 H

Sala de conferencias de Serrano 121

Y en el canal de Youtube del Instituto de Estructura de la Materia

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