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Stochastic backgrounds of Gravitational Waves as an evidence of Primordial Black Holes

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The groundbreaking progresses in the detection of gravitational waves, and the possibility to gain insight into the black holes that populate our Universe, have recently attracted attention on the proposal of Primordial Black Holes, which could constitute the dark matter. If such objects were generated during the early stages of the cosmological history, they would be accompanied by a stochastic background of gravitational waves, potentially detectable with many recently proposed experiments.

We will illustrate this connection, with a particular application to the scenario in which the perturbations responsible for the generation of these signatures are generated by the Standard Model Higgs.

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