

Prospects for Primordial Black Hole evaporation studies with the Southern Wide-field Gamma-ray Observatory

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The search for Primordial Black Hole (PBH) signatures is very broad in techniques, the origin of these signatures and in theories of PBH formation. Searches for imprints of evaporation involve several observables such as the Extragalactic Gamma-Ray background or direct measurement of different species of cosmic rays. Using these observables, one can put very tight constraints on the PBH density in a mass range around 10^{14} g. To perform direct observations of the evaporation of these PBHs, one needs to be sensitive to photons in the Very High Energy gamma-ray regime, either using Imaging Atmospheric Cherenkov telescopes or wide field of view shower front detectors. The Southern Wide-field Gamma-ray Observatory is a projected ground-based gamma-ray detector that will be located in the Southern Hemisphere and it is now in its design phase. In this contribution, I will show the limits on PBH evaporation that can be achieved with a straw man detector that is being considered at the moment for SWGO.

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