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Searching for Primordial Black Holes with the Einstein Telescope

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Primordial Black Holes (PBH) have attracted much attention in the last years as they may explain some of the LIGO/Virgo/KAGRA observations and significantly contribute to the dark matter in our universe.

The third generation of ground-based gravitational wave detectors will have the unique opportunity to set stringent bounds on this putative population of objects.

Focusing on the Einstein Telescope (ET), we will explore how well we could observe key quantities, that would allow us to discover and/or constrain a population of PBH mergers, from high redshifts to subsolar masses. We will also present the results of a population analysis, with a mass and redshift distribution compatible with the current observational bounds. The exquisite level of accuracy attainable on the considered observables will be shown, as well as the potential ET has to observe tens to thousands of PBH binary mergers per year.

Would you be interested in presenting a poster? (this will not impact the decision on your talk)

no

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