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Searching for primordial black holes at current and future gravitational wave detectors

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Primordial Black Holes might comprise a significant fraction of dark matter in the Universe and can give rise to observable signatures at current and future gravitational wave experiments. First, we review the PBH model and discuss how accretion and clustering may affect the properties of PBH binaries. Second, we confront the PBH model with LIGO/Virgo/KAGRA data showing its upsides and shortcomings, by also including state-of-the-art astrophysical models in a multi-population inference. Finally, we discuss how future generation detectors may be able to discover a PBH population by searching for high redshift merger events.

Author: FRANCIOLINI, Gabriele

Presenter: FRANCIOLINI, Gabriele

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