ICCUB School 2023: Primordial Black Holes



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New method to detect continuous gravitational waves from inspiraling light primordial black holes

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Primordial black holes can span a large range of masses depending on their time of formation. In particular, they can have subsolar masses and form binary systems in an efficient way. The inspiral phase can last for long periods of time (from hours to years) with a slow increase of frequency and, therefore, these signals are well suited to be searched with continuous gravitational waves methods. We present a new method based on the band sampled data (BSD) framework to specifically target this kind of signals. Additionally, we show an estimation of the sensitivity of the search and the computational cost associated to it.

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