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Stochastic Gravitational Wave Backgrounds (SGWB) characterization with LISA

lundi 17 mai 2021 15:10 (30 minutes)

In this talk I will discuss Stochastic Gravitational Wave Backgrounds (SGWB) characterization with LISA. After a general introduction on SGWB detection, I will explain the peculiar features of LISA with a focus on the response function and on the noise spectrum. The core of my talk will be the presentation of two different methods for model independent SGWB frequency reconstruction:
- The so-called "binning method" (1906.09244, 2009.11845) based on the idea of approximating the signal with a piecewise-defined function where each sub-function is a power law.
- A more recent method (2004.01135) based on principal components analysis.
The problem of component separation to disentangle a cosmological SGWB from astrophysical foregrounds is addressed in both cases.

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