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Clustering of gravitational waves in LCDM and effective field theories of gravity

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In the era of large scale galaxy surveys, significant effort has been put in constraining cosmological models with unprecedented precision. In this context, gravitational waves (GW) might play a pivotal role to improve our understanding of the Universe. In particular, the clustering of gravitational waves potentially allows to constrain perturbation growth, similarly to galaxy clustering. As is the case for galaxies, the clustering of GW that can be measured from observations suffers from a number of relativistic corrections that affect the measured signal. In my talk, I will discuss the relativistic effects affecting GW clustering, and the detectability of the total signal by current and planned GW detectors. I will also discuss how this clustering can be used in synergy with other cosmological probes to constrain cosmologies.

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