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Detecting Gravitational Waves with LISA: Searching and extracting signals in the data

The ESA Laser Interferometer Space Antenna (LISA) is a space born Gravitational-Wave (GW) observatory scheduled to be launched in the early 2030s. LISA will be comprised by a constellation of three satellites forming a triangle with sides of 2.5 million kilometres, following a heliocentric orbit. In this talk I will present the measuring principle of LISA, as well as the different GW sources that are going to be captured by the observatory. I will also discuss the data analysis challenges that we will need to face in order to extract the signals from the data, as well as the key differences with our experience so far with the ground-based detectors.

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