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A General Overview of LISA Data Analysis: The Global Fit Approach

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The spatial gravitational waves observatory LISA has been officially adopted by ESA in January 2024 and its launch is currently planned for 2035, leaving a decade to face all the data analysis challenges posed by the expected data. In this presentation I will present the various sources of LISA with their associated science cases and how this leads to new challenges in gravitational data analysis. The current approach, the so-called global-fit, and its associated costs, will be presented. I will finally briefly focus on time-frequency approaches that are foreseen as a promising tool to enhance computational speed and save computation resources in the analysis.

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