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【457】 Global Fit of LISA Data with Galactic Binaries and Massive Black Hole Binaries

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The Laser Interferometer Space Antenna (LISA) is a planned space-based observatory to measure gravitational waves in the millihertz frequency band, expected to capture signals from millions of Galactic binaries and tens of merging massive black hole binaries. We introduce a novel, cost-effective global fit pipeline for extracting and characterizing these signals. The pipeline performs a time-evolving weekly analysis from 1 week to 1 year of observation. Additionally, we present a novel maximum likelihood algorithm for extracting multiple massive black hole binaries and demonstrate a signal extraction considering higher harmonic modes in a noisy data set.

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