

Experiments: Progress on the Astrometric Gravitational Wave Antennas

Thursday, September 7, 2023 2:30 PM (30 minutes)

The operational tenets of an antenna for measuring strength and pin-point direction of Gravitational Waves, based on (sub)micro-arcsecond astrometric monitoring of resolved optical pairs, are reviewed before addressing the technologies (including computational) being considered and developed under different initiatives for its realization.

Along with the space option, by far the most promising in terms of flexibility, discovery potential, and complementarity with current or future facilities, an idea for a ground-based facility/precursor is also presented.

Finally, we discuss the implementation of a digital version of the astrometric antenna under development as a post-operation/legacy program to exploit the astrometric time series taken by the Gaia satellite over its 10+ years of operational life to characterize the GW cosmic background and possibly more.

Presenter: LATTANZI, Mario G.

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