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Constraining the speed of gravity using astrometric measurements

Monday 11 November 2019 16:25 (15 minutes)

Stochastic gravitational wave backgrounds induce correlated patterns in the redshift and astrometric shifts of objects on the sky. The astrometric equivalent of the Hellings-Downs curve depends on the polarization content as the group velocity of the GWs making up the stochastic background. I will explain how these results relate to the measurements taken by the Gaia mission and how they can be leveraged to produce new constraints on the mass of the graviton and the speed of gravity from an ultra-low frequency point of view. I will also draw parallels between these new results and the existing PTA literature.

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Session Classification: Short talks