Contributed Talk

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Title: Amplitude and Polarisation of Light in Gravitational Wave Detectors

Abstract: Most theoretical descriptions of laser interferometric gravitational wave detectors are based on the eikonal equation which determines the optical phases of the light rays reaching the detector. While this method provides the key ingredient to describe the observed signal, it neglects amplitude and polarisation degrees of freedom and thus provides only incomplete information about the field producing the signal. In this talk, I will describe the extension of such models to also include the electromagnetic amplitude and polarisation, using both ray-optics and wave-optics methods.