

Design of Mode Matching Telescope in Einstein-Podolsky-Rosen(EPR) Experiment for Gravitational Wave Detection

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The EPR Experiment aims to demonstrate alternative Frequency-Dependent Squeezing (FDS) for reducing broadband quantum noise in gravitational wave detectors. We designed two reflective mode-matching telescopes (MMT) for an Einstein-Podolsky-Rosen (EPR) squeezing experiment. It can provide high mode matching for EPR entangled squeezed light. To ensure precise alignment and reproducibility of the MMT, we placed optomechanics on a base plate with a reference plane. Beam profiling results and pre-simulated alignment process calculate the misalignment compensation length.

Collaboration

Role of Submitter

I am the presenter

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