

Gravitational Lensing Theory from a Covariant Point of View

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Abstract

We will discuss gravitational lensing as far as possible from the point of view of spacetime geometry without the use of perturbation theory or a spacetime background metric. The plan is to construct a conceptual framework so that lensing theory fits covariantly into general relativity. The usual perturbation approach will then follow as a simplification and approximation from the general construction.