

General Relativity and Quantum Cosmology

Towards a more exact value of deflection of light due to static gravitational mass

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The deflection of a ray of light passing close to a gravitational mass, is generally calculated from the null geodesic which the light ray (photon) follows. However, there is an alternate approach, where the effect of gravitation on the ray of light is estimated by considering the ray to be passing through a material medium. Calculations have been done in this paper, following the later approach, to estimate the amount of deflection due to a static non-rotating mass. The refractive index of such a material medium has been calculated in a more rigorous manner in the present work and the final value of amount of deflection calculated here is claimed to be more accurate than all other values resulting from previous calculations.

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