

Polarization tensor of the photon in the presence of the electric, at order 1-loop.

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Content

We will present the calculation of the polarization tensor of a photon in the presence of electric fields, to 1-loop order. We will analyze the behavior of the imaginary part of the polarization tensor as a function of the electric field strength, in order to observe the changes produced by the electric fields present in the probability of producing dileptons. The result will be shown considering the strong field approximation, which has an analytical expression, and will be contrasted with the result valid for any value of the electric field, which is numerical due to the complexity of its integration.

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