ONE-LOOP AMPLITUDES OF CHARGED FERMIONS IN CONSTANT HOMOGENEOUS ELECTROMAGNETIC FIELDS

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Two-point one-loop amplitudes induced by charged fermions and modified by a constant homogeneous electromagnetic fields are presented. For the background field, two configurations – pure magnetic field and crossed electromagnetic fields – are considered. The set of two-point amplitudes of scalar, pseudoscalar, vector and axial-vector fermionic currents, already known in literature, is completed by ones which contain the tensor current. Such a tensor current is a fermionic part of the Pauli Lagrangian relevant for the electromagnetic interaction of fermions through the anomalous magnetic moment. Its contribution to the photon polarization operator is discussed.

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