

Two-Point One Loop Fermionic Amplitudes in Constant Homogeneous Magnetic Field

We study two-point one loop fermionic amplitudes (correlation functions) under an influence of the constant homogeneous magnetic field. In addition to the correlators of scalar, pseudoscalar, vector and axial-vector fermionic currents already known, we calculate the non-diagonal ones including the correlations of the tensor current with scalar and pseudoscalar currents. The tensor current is a fermionic part of the Pauli Lagrangian relevant for the electromagnetic interaction of fermions through the anomalous magnetic moment. Physical applications of these amplitudes are discussed.

Primary author: Mr KARABANOV, Ilya (P.G. Demidov Yaroslavl State University)

Co-authors: Dr PARKHOMONKO, Alexander (P.G. Demidov Yaroslavl State University); Dr DOBRYNINA, Alexandra (P.G. Demidov Yaroslavl State University); Prof. VASSILEVSKAYA, Lubov (Fulda University of Applied Sciences)

Presenter: Mr KARABANOV, Ilya (P.G. Demidov Yaroslavl State University)

Track Classification: Theoretical Physics