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Fermion AMM Contribution to Photon Polarization Operator in External Electromagnetic Field

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A tensor fermionic current is the part of the Pauli Lagrangian density describing the electromagnetic interaction of fermions through their anomalous magnetic moment (AMM) induced by New Physics. Two-point vector-tensor and tensor-tensor correlators of fermionic currents are calculated in a constant homogeneous electromagnetic field background. Under assumption that this interaction enters the effective QED Lagrangian, the contribution induced by AMM to the photon polarization operator is calculated and its impact is discussed.

Primary author(s) : PARKHOMENKO, Alexander (P.G. Demidov Yaroslavl State University)

Co-author(s) : DOBRYNINA, Alexandra (P.G. Demidov Yaroslavl State University); KARABANOV, Ilya (P.G. Demidov Yaroslavl State University); VASSILEVSKAYA, Lubov

Presenter(s) : PARKHOMENKO, Alexander (P.G. Demidov Yaroslavl State University)

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