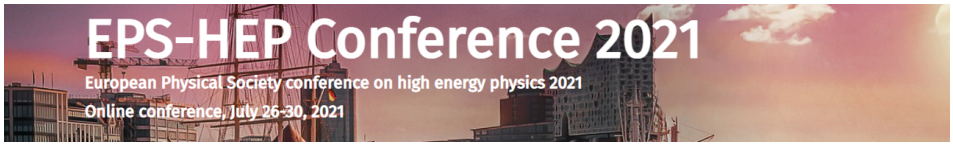

Contribution ID: **1072** Type: **Poster**

One-Loop Correlators of Charged Fermionic Currents Modified by Electromagnetic Fields and Their Applications

The non-diagonal correlators of tensor fermionic current with scalar, pseudoscalar, vector and axial-vector ones are considered as examples of the two-point one-loop amplitudes modified by a constant homogeneous magnetic field. The crossed-field limit of this correlators are found. The tensor current is a fermionic part of the Pauli Lagrangian relevant for the electromagnetic interaction of fermions through the anomalous magnetic moment. Under an assumption that this interaction enters the effective QED Lagrangian, the contribution to the photon polarization operator in AMM is calculated. Other examples where a photon is interacting with neutral particles like an axion-like particle are also presented.

First author

Alexander Parkhomenko

Email

parkh@uniyar.ac.ru

Collaboration / Activity

Theory

Primary authors: Prof. PARKHOMENKO, Alexander (P.G. Demidov Yaroslavl State University); Mr KARABANOV, Ilya (P.G. Demidov Yaroslavl State University); DOBRYNINA, Alexandra (P. G. Demidov Yaroslavl State University & University of Hamburg); Prof. VASSILEVSKAYA, Lubov (Fulda University of Applied Sciences)

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

Session Classification: T01: Astroparticle and Gravitational Waves

Track Classification: Astroparticle and Gravitational Waves