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Anomalous equations for inhomogeneous chiral plasma

Electric and chiral current densities in inhomogeneous relativistic plasma are obtained from the chiral kinetic theory. Also a set of self-consistent equations for the chemical potentials are derived. Several new effects associated with inhomogeneities of the plasma are revealed. Apart from various diffusion-like terms, we find also new dissipation-less terms that are independent of relaxation time. Their origin can be traced to the Berry curvature modifications of the kinetic theory.

On behalf of collaboration:

None

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