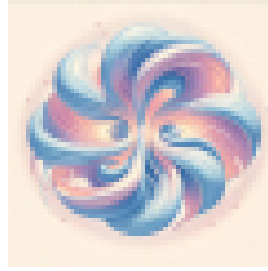


The 8th International Conference on Chirality, Vorticity and Magnetic Field in Quantum Matter



ID de Contribution: 55

Type: **Flash Talk (Plenary) + Poster**

Dirac Eigenvalue Distributions and the Chiral Magnetic Effect

lundi 22 juillet 2024 18:20 (5 minutes)

We investigated the Dirac eigenvalue distributions at finite chiral chemical potential and strong magnetic field. We found that the eigenvalue distributions exhibit what is called the skin effect in condensed matter physics which is typical behavior when a topological transport is expected.

We also analyzed different distribution patterns by multiplying some matrices to the Dirac operator. The eigenvalues are placed not randomly but along lines only when the operator product corresponds to the physical observable relevant to the topological transport.

We also discuss possible applications of topological data analysis (TDA) to judge whether the topological current emerges.

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Classification de Session: Flash talk and posters