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Bulk effects in the Casimir interaction of Dirac materials

Tuesday, 31 August 2021 17:00 (30 minutes)

We use Quantum Field Theory methods to we compute the bulk polarisation tensor of the materials, whose lattice tight-binding description permits a low-energy approximation in terms of Dirac fermion quasi-particles.

We study bulk dielectric functions of such Dirac materials at imaginary frequencies in the presence of a mass gap, chemical potential, and temperature. By using these data (and neglecting eventual boundary effects), we study the Casimir interaction of Dirac materials. We describe in detail the characteristic features of dielectric functions and their influence on the Casimir pressure.

Is this abstract from experiment?

No

Name of experiment and experimental site

n/a

Is the speaker for that presentation defined?

Yes

Details

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Internet talk

Yes

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