

## Path integral methods for the Casimir effect

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The QED Casimir effect is a fascinating macroscopic result of the quantum vacuum, causing forces between neutral conductors. Implementing the calculation of the Casimir energy in the path integral formalism results in a number of benefits over conventional methods: Lengthy scattering calculations can be avoided, there is no need for an energy-momentum tensor, and gauge invariance is explicit. The method is also straightforward to extend, materials that have a convenient description in terms of effective field theories, such as Weyl Semimetals, can be easily included. In this talk I will describe the calculation framework, possible extensions of the method and some upcoming results.