Divergences in the Casimir Effect

(14 January 2014)

William Simpson

University of St Andrews

The Casimir Effect is a force that arises between macroscopic bodies due to quantum fluctuations. It has been calculated for a variety of different materials and geometries. However, when the inhomogeneous nature of media is taken into account, the predicted force diverges. We have found a cutoff-dependence in the Casimir force which suggests that the phenomenon may depend in detail on the microphysical properties of the system.