Contribution ID: **247** Type: **Talk**

Nonperturbative Casimir Effects in Lattice Gauge Theories

Tuesday, 8 September 2020 12:20 (30 minutes)

We review recent studies of the Casimir effect in non-perturbative regimes within the lattice gauge field theory. The Casimir effect is a quantum phenomenon rooted in the fact that quantum fields' vacuum fluctuations are affected by physical objects and boundaries. As the energy spectrum of vacuum fluctuations depends on distances between (and geometries of) physical bodies, the quantum vacuum exerts a small but experimentally detectable force on neutral objects. Usually, the associated Casimir energy is calculated for free or weakly coupled quantum fields. We discuss the lattice formulation of the Casimir effect, which allows us to extend its study to the strong coupling regime with different boundary conditions and Casimir boundaries' geometry. We consider vacuum restructuring in finite geometries - the influence of Casimir boundaries on chiral and deconfining phase transitions and mass scales.

Is this abstract from experiment?

No

Internet talk

Yes

Name of experiment and experimental site

N/A

Is the speaker for that presentation defined?

Yes

Details

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