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Physical Implications of Topological Casimir Effect CHUNJUN CAO, MOOS VAN CASPEL, ARIEL ZHITNITSKY, University of British Columbia — Casimir effect is typically known as the presence of an attractive force between two neutrally charged and perfectly conducting parallel plates in vacuum. It was known that an extra term in the Casimir energy emerges from non-trivial topological features of the gauge fields, but this effect is greatly suppressed in the typical setup of Casimir effect experiments. Nevertheless, I will show in this presentation that in the presence of a non-zero external magnetic field, this topological effect is greatly enhanced, making it possible to be measured in experiments.

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