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## Axion-photon coupling from lattice QCD

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We present preliminary results for the QCD contribution to the axion-photon coupling obtained via lattice simulations. For sufficiently small background electromagnetic fields, the topological charge exhibits a linear response to the scalar product between  $E$  and  $B$ , whose slope can be interpreted as the axion-photon coupling. The reasons for this interpretation are explained. In order to extract the coupling, we compute the topological charge with lattice QCD simulations with background electromagnetic fields in the linear response region and perform a numerical derivative.

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