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## Debye mass of photon and graviton in de Sitter space.

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Recent works have explored interesting phenomena about quantum field theory in de Sitter space. One of the simple ways to estimate the behaviour of a system with matter in an external electric or gravitational field is to calculate the effective equation of motion for small perturbations of a background field in one-loop order. Further approximations allow us to introduce the notion of Debye mass for such perturbations. In this report, we will make a brief review of the work ‘Debye mass in de Sitter space’ (<https://arxiv.org/abs/1711.11010>), in which the effective Debye mass of a photon is calculated in scalar electrodynamics in de Sitter space. After that, we will discuss the prospect of calculating a similar quantity for a graviton in de Sitter space.

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