

# Quantise the impact of a non-perturbative parameter on the momentum of the weak gravity model

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## Abstract

In this letter we discuss the impact of a non-perturbative parameter of the weak gravity model on the momentum of photons in a Coulomb gas environment. In particular we discuss the impact of the non-perturbative parameter on the momentum of photons, which is typically defined by the mass of the dark photon and the energy density of the light photon. We derive the linearized momentum of photons in the weak gravity model and discuss the consequences for the dynamics of the weak gravity model.