Abstract Submitted
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Coupling the photon kinetics of soft photons with high energy photons[1] L. O. SILVA, GoLP/IPFN, Instituto Superior Tecnico, Universidade de Lisboa, Portugal, R. BINGHAM, RAL/STFC and University of Strathclyde, U.K. — The description of electromagnetic fields based on the generalized photon kinetic theory, which takes advantage of the Wigner-Moyal description for the corresponding classical field theory, is capable of capturing collective plasma dynamics in the relativistic regime driven by broadband incoherent or partially coherent sources. We explore the possibility to extend this description to include the dynamics of hard photons in the plasma, whose interaction is dominated by single scattering processes. Examples of the modification of classical plasma instabilities due to the presence of hard photons is discussed.

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