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Annihilation and bremsstrahlung channels in kinetics of the electron-positron plasma created from vacuum in a strong electric field

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We consider the problem of radiation from the electron-positron plasma (EPP) created in the focus spot of the colliding superpower laser beams. For this aim we construct the BBGKI chain of the kinetic equations in the quasiparticle representation limeted by the annihilation and bremsstrhlung channels in the photon sector of the theory. Decoupling procedure is based on assumption that the radiation field is small in comparison with an external field. It brings to the closed nonlinear kinetic equation system relative to the EPP and photon distribution functions. The aim of the work is a generalization of the results [1].

[1] D.B. Blaschke, V.V. Dmitriev, G. Roepke, and S.A. Smolyansky, PRD 84, 085028 (2011).

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