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Relativistic Boltzmann equations for the pair plasma in presence of baryon loading ALEXEY AKSENOV, REMO RUFFINI, GREGORY VERESHCHAGIN, ICRArNet and Univesity of Rome “Sapienza” — In the recent publication we analyzed the role of the direct and the inverse binary and triple interactions in reaching thermal equilibrium in homogeneous isotropic pair plasma, starting from a nonequilibrium state. In the present work we extend the analysis to the case of baryon-loaded plasma. The corresponding timescales for thermalization of electrons, positrons, protons and photons are determined out from the numerical solution of the relativistic Boltzmann equations. We include all exact QED collisional integrals for binary reactions, while for the corresponding radiative variants we reduce reaction rates to the known expressions of kinetic coefficients in the thermal equilibrium.

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