

# THE ROLE OF THE RADIATION REACTION AND OF THE TIME DELAY IN A SYSTEM OF TWO PARALLEL CURRENT SHEETS

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The reflection and transmission of a few-cycle laser pulse impinging on two parallel thin metal layers have been analyzed. The two layers, with thickness much smaller than the skin depth of the incoming radiation field, are represented by current sheets, which are embedded in three dielectrics, all with different index of refraction. The dynamics of the surface currents and the scattered radiation field are described by the coupled system of Maxwell–Lorentz equations. We solved analytically the resulting coupled delay differential-difference system of equations. The main emphasis is on the effect of the delay on the dynamics of the system.

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