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*Existence of ground state of massless relativistic Pauli-Fierz model*

We consider the massless relativistic Pauli-Fierz model which describes the massless charged particle interacting with a quantized radiation field. The Hamiltonian of this model have the form  $H = |p - eA(x)| + H_f + V(x)$  where  $p$  is the momentum of the particle,  $A(x)$  is the quantized vector potential,  $H_f$  is the free energy of the photon and  $V(x)$  is the external potential. We show the existence of ground state of this model under suitable condition for  $V$ .