

Abstract Submitted
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Compositeness, Bargmann-Wigner solutions within a U(1)-interaction quantum-field-theory expansion, and charge JAIME BESPROSVANY, Instituto de Fisica, Universidad Nacional Autonoma de Mexico — New solutions of the Bargmann-Wigner equations are obtained: free fermion-antifermion pairs, each satisfying Dirac's equation, with parallel momenta and momenta on a plane, produce vectors satisfying Proca's equations. These equations are consistent with Dirac's and Maxwell's equations, as zero-order conditions within a Lagrangian expansion for the U(1)-symmetry quantum field theory. Such vector solutions' demand that they satisfy Maxwell's equations and quantization fix the charge. The current equates the vector field, reproducing the superconductivity London equations, thus, binding and screening conditions. The derived vertex connects to QCD superconductivity a constrains four-fermion interaction composite models. Reference: arXiv:2101.01347

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