

ON POSSIBILITY OF DYNAMICAL FERMION MASS
GENERATION IN FINITE QUANTUM ELECTRODYNAMICS

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One of the necessary conditions for finiteness of quantum electrodynamics in the Johnson-Baker-Willey programme is completely dynamical generation of the electron mass. To analyse this attractive idea, we investigate the Schwinger-Dyson equation for the electron propagator. The singularity of the electron propagator in the time-like region of p^2 should be identified as the electron mass. The Schwinger-Dyson equation for the electron propagator in the first approximation we analysed earlier and we have shown in an analytic form the absence of electron (fermion) mass generation in this approximation. Here, we present the results of our investigation on the second order approximation.