

CRITICAL CHARGE IN MODIFIED QUANTUM ELECTRODYNAMICS

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S u m m a r y

For a simple model of extended source (a nucleus), we have got the exact normed solutions of the Dirac equation with a scalar-vector potential of the Coulomb type and a transcendental equation which determines the levels of the ground and excited electron states in the subcritical region $Z < Z_{\text{cr}}$. We have constructed the equation for the critical charge of a nucleus, at which the level descends into the lower energy continuum. A strong influence of the Lorentz structure of interaction potentials on the critical charge and the discrete spectrum of a fermion in scalar and vector Coulomb-like fields is revealed.