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E-Cat SK and long-range particle interactions

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Abstract

Abstract Some theoretical frameworks that explore the possible formation of dense exotic electron clusters in the E-Cat SK are presented. Some considerations on the probable role of Casimir, Aharonov-Bohm, and collective effects in the formation of such structures are proposed. A relativistic interaction Lagrangian, based on a pure electromagnetic electron model, that suggests the possible existence of very low entropy charge aggregates and that highlights the primary role of the electromagnetic potentials in these clusters is presented. The formation of these cluster may be associated to a localized Vacuum polarization generated by a rapid radial charge displacement. The formation of these dense electron clusters are introduced as a probable precursor for the formation of proton-electron aggregates at pico-metric scale, stressing the importance of evaluating the plausibility of special electron-nucleon interactions, as already suggested in [#GullstromRossi]. An observed isotopic dependence of a particular spectral line in the visible range of E-Cat plasma spectrum seems to confirm the presence of a specific proton-electron interaction at electron Compton wavelength scale.

$$Au^{197} + N^{14} \rightarrow Au^{198} + N^{13}$$

$$\sigma I = 2$$

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