

Detailing the “Universe Time-Scale”

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Abstract:

In recent work we have drawn a quantitative picture of protons condensation from a state at 3.7 GeV, which we freely associated to a “vacuum”. We then found evidence for the actual character of such a state from the flux profile of protons in cosmic rays, which indicates 3.7 GeV as the environment energy in equilibrium with embryo-protons after the big-bang. Based on the literature, we insert such finding into a pictorial representation of the Universe Time-Scale.

In recent work [1] we have drawn a quantitative picture of protons condensation from a state at 3.7 GeV, which we freely associated to a “vacuum”. We then found evidence for the actual character of such a state from the flux profile of protons in cosmic rays[2,3], which indicates 3.7 GeV as the environment energy in equilibrium with embryo-protons after the big-bang.

We here insert such finding into a pictorial representation of the Universe Time-Scale[4], as drawn by Olivier T. Godichet. This picture (Figure 1) makes very clear that the condensation of embryo protons in the form of “vortices” precedes the stabilization of their inner constituents (probably preceding the attainment of their definitive topology[5]) and their interactions as at present described by QCD. The final stage topology is not yet ready at 4 GeV, but the results of [1] clearly indicate that the mass and magnetic moments of the proton and related baryons are already settled at such stage. No detailed picture of inner constituents is required at these early stages.

However, it seems that it is the gap in knowledge that turns QED so much different from QCD that hinders the concrete description of how a particle would evolve from its embryonic form to a definitive form, a form modeled nowadays through the existence of constituents interacting through gluons. Such gap of knowledge on how to link QED and QCD along the years led to the idea that such undertaking is unfeasible, and even that attempts on that direction should not deserve consideration from the Editors of scientific publications. Papers [1-3] demonstrate that there is enough experimental evidence to justify professional investment on such borderline phenomena, which include the fundamental issue of the origin of particles.

References:

[1] O. F. Schilling, Prog Phys(ptep-online.com), 15, 185 (2019).

[2] _____ 15, 197(2019)

[3] O.F. Schilling, vixra: 2007.0122

[4] <http://www.olicognography.org/drawings/bigbangscale.html>

[5] for a model of quarks topology see H. Jehle, Phys. Rev. D11, 2147 (1975).

Figure 1: The Universe Time-Sacale, as freely adapted from [4].

