

PROTON PUZZLE

The muon mass is about 200 times the electron mass so the muon is about 8 million more times likely to be inside the proton than the electron.

So we can imagine that,

(see Vixra: 1711.0299; Author Pisedda Giampaolo)

the volume flux, caused by the presence of the muon inside the proton volume, in a certain time interval Δt , depends on the number of times that in Δt the muon is present inside the proton.

From the formula $1^{(6)}$

(see Vixra: 1711.0299; Author: Pisedda Giampaolo)

we obtain: $V_p^i = V_p^f (1 - m_\mu/M_p)$.

Let $r_p^f = 0.84184$ fm be the charge radius of Muonic hydrogen;

then from $\frac{V_p^f}{V_p^i} = 1 - \frac{m'_\mu}{M_p}$, we obtain $m'_\mu = h\nu' < m_\mu$

ν' represent the number of times, that the muon, has been found inside the volume of the proton, in a second of time elapsed.

We deduce that the measurement of the radius value of the muon proton carried out by scientists in 2010, does not represent a more precise measure than the one carried out in

[2013, but simply, that in the measure of 2013](#), the number of times, that the muon has been found inside the proton, is greater than the experiment of 2010; i.e. the muon's orbit was closer to the proton.

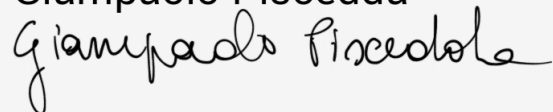
It is as if the particle appeared and disappeared continuously over time, at regular intervals and with it, it's volume flux in the ether J_{ϵ} . So at points in the space, where it is less likely to find the particle, ν will be smaller; this does not mean that in such points of space the particle has a smaller mass, but simply that it appears and disappears within longer time intervals and it will therefore be less likely to interact with respect to the points in space, where the ν has a high value.

We deduce that a particle is simultaneously present in all points of space, including those in which $\nu \rightarrow 0$.

It can be thought that as the temperature decreases, the ν of the particle decreases, causing a decrease in its volume (see Vixra:1711.0390; Author; Pisedda Giampaolo).

Since the particle can be considered equivalent to the ether, we deduce that the ether J_{ϵ} oscillates causing the variation of the radius of the proton. Therefore the charge radius of the proton varies over time.

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Reference

The size of the proton

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Proton Structure from the Measurement of 2S- 2P Transition Frequencies of Muonic Hydrogen

Randolf Pohl, Aldo Antognini, François Nez, Fernando D. Amaro, François Biraben, João M. R. Cardoso, Daniel S. Covita, Andreas Dax, Satish Dhawan, Luis M. P. Fernandes, Adolf Giesen, Thomas Graf, Theodor W. Hänsch, Paul Indelicato, Lucile Julien, Cheng-Yang Kao, Paul Knowles, Eric-Olivier Le Bigot, Yr - We Liu, José A. M. Lopes, Livia Ludhova, Cristina M. B. Monteiro, Françoise Mulhauser, Tobias Nebel, Paul Rabinowitz, Joaquim M. F. dos Santos, Lukas A. Schaller, Karsten Schuhmann, Catherine Schwob, David Taqqu, João F. C. A. Veloso, Franz Kottmann, Marc Diepold, Andrea L. Gouvea, Jan Vogelsang

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The Rydberg Constant and Proton Size from Atomic Hydrogen

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Muonic hydrogen and the Proton Radius Puzzle

Nuclear structure from Laser spectroscopy of light muonic atoms

Randolf Pohl MPQ, Garching for the CREMA collaboration

Muonic hydrogen and the proton radius puzzle

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