

Please read my articles in more detail.

Speaking the language of QM or QCHD "elementary particles and their decay modes "

are in fact losing speed real stable particles (p +, n0, D, He-3, α)

Stable particles (p +, n0, D, He-3, α) moving with speeds (0,3 c – 0,99 c) creates baryons and mesons.

The strong interactions are caused with stable particles (p +, n0, D, He-3, α), which creates baryons (in dire and mesons. Therefore creation and annihilation operators in physics are irrelevant.

Kinetic energy /of electron , proton , neutron, alpha particle./

$$E = mc^2 [\ln |1-v/c| + (v/c) / (1-v/c)] \quad \text{in direction of motion of electron, proton ,}$$

where v is velocity of electron proton , neutron, alpha particle.

Kinetic energy /of electron , proton , neutron, alpha particle./

$$E = mc^2 [\ln |1+v/c| - (v/c) / (1+v/c)] \quad \text{against direction of motion of electron , proton ,}$$

where v is velocity of electron , proton , neutron, alpha particle.

Stable particles velocity v/c	Front of electron, proton, neutron, deuteron, He-3, α-particle [ln 1-v/c + (v/c) / (1-v/c)]	Behind of electron, proton, neutron, deuteron, He-3, α-particle [ln 1+v/c - (v/c) / (1+v/c)]	Decay modes
Alpha particle 0,740795109	Λ0b5620,2/α: 1,5078154480367 79679174754609 3745 bottom Lambda Λ0b 5620,2MeV/c ²	/α: 0,12879211144543390135 241844828114 480,057042583086248078 468247 MeV/c ²	See Λ0b decay modes
Alpha particle 0,7533042897	Ω-b /α: 1,6539771248615 25696970279023 3076 bottom Omega Ω-b 6165 MeV/c2	K+ /α: 0,13185382624286629129 216216386684 491,469214760347149777 34838317031 MeV/c2 less than K+ 493,677 MeV/c2	(Ω-+J/ψ seen)
		K+ 493,677/α: 0,13244614197078588654	μ+ + νμ or

		692405272934	$\pi^+ + \pi^0$ or $\pi^0 + e^+ + \nu_e$
0,76	1,7395503110265 20918277625358 595	0,13349562723187859551 307097261093	
		K0, K0S, K0L 497,614/ α : 0,13350238007979032474	$\pi^\pm + e^\mp + \nu_e$ or $\pi^\pm + \mu^\mp + \nu_\mu$ or $\pi^0 + \pi^0 + \pi^0$ or $\pi^+ + \pi^0 + \pi^-$

Neutron 0,8103668	$\Sigma^+ c // n^0$: 2,61067516629136393644212544 97813 2452,9 MeV/c ²	π^0 / n^0 : 0,1436585501770159947 π^+ / n^0 : 0,1485475979299 0,14590373087681143 137,08609408352 MeV/c ² pion π^0	$\Lambda^+ c + \pi^0$
	$\Sigma_c (2455) / n^0$: 2,612910242846347196927		
Proton 0,8105263	$\Sigma^+ c / p^+$: 2,614273770499822 2452,9 MeV/c ²	0,145943178944838 136,9344051389 MeV/c ² pion zero π^0	$\Lambda^+ c + \pi^0$
Neutron 0.8210911	$\Omega^0 c // n^0$: 2,8685603604665840766 Charmed Omega $\Omega^0 c$ 2695,2 MeV/c ²	π^+ / n^0 : 0,14855719485567 139,57919697 MeV/c ² pion π^+ , π^+ , π^- $\pi^- = 139,57018$ MeV/c ²	See $\Omega^0 c$ decay modes

Proton 0,821245	$\Omega^0 c / p^+$: 2,8725144391651203471961904 745908 2,8725144993078885300477894 39106 2,695.2 \pm 1.7 MeV/c ² 6,9 \pm 1.2 \times 10 ⁻¹⁴ s	Proton $v/c = 0,82188$ π^+ / p^+ : 0,1487523587588583 139,570175 MeV/c ² 139,57 = $\pi^- +$	See $\Omega^0 c$ decay modes
Proton 0,992830	Higgs Boson /p: 133,54335827671029218747 Higgs Boson 125300 MeV/c ²	0,191354813279005 179,542872167 MeV/c ²	

Stable **electrons** moving with speeds (**0,99 c – c**) creates leptons (**μ^- , τ^-**), neutrinos (**ν_e , ν_μ , ν_τ**) and bosons **W +, W-, Z**.

Electron velocity v/c	Front of electron, [ln 1-v/c + (v/c) / (1-v/c)]	Behind of electron [ln 1+v/c - (v/c) / (1+v/c)]
Electron 0,99530803 2	Muon/e: 206,76828223744686 Muon 105,658366838 MeV = kinetic energy of elektron in direction of motion of electron	Muon neutrino /e: 0,191974190730948 Muon neutrino 98,0986022063665 keV = kinetic energy of elektron against direction of motion of electron < 170 keV
Electron 0,99642558 425145955 450	π^-/e^- : 273,13204749023558573 139,5701835 MeV/c² pi minus π^- 139,57 MeV/c²	ν_μ/e^- : 0,1922535775767899489571 2344707072 98,241372067052395131711 693801718 keV/c² = kinetic energy of elektron against direction of motion of electron < 170 keV Muon neutrino ν_μ
Electron 0,99999364 465781184	W+ BOSON/e: 157334,97358013414 W+ BOSON = 80 398 MeV	neutrino/e: 0,1931455917243982747650 Muon neutrino 98,697186837160259358230 511606622 keV < 170 keV Tauon neutrino ν_τ < 15.5 MeV
Electron 0,99999439 6590953	BOSON Z/e: 178449,69572422000527 BOSON Z = 91 187,6 MeV = 91, 187,6 GeV	neutrino/e: 0,1931457797076835630825 Muon neutrino 98,6972829keV < 170 keV Tauon neutrino ν_τ < 15.5 MeV

Speeds of electrons and protons in atoms are smaller. For example: An electron moving at a speed **$v_e = 0,003c$** creates spectral line **H α** .

Shortened Great Table of Elementary Particles

<http://vixra.org/pdf/1404.0246v1.pdf>

Great Table of Elementary Particles

<http://vixra.org/pdf/1404.0243v1.pdf>

In the case of electromagnetic waves, see 2.1.3 The electromagnetic field. Maswell's equations, p. 28

VLCEK, L.: New Trends in Physics, Slovak Academic Press, Bratislava 1996, ISBN 80-85665-64-6.
Presentation on European Phys. Soc. 10th Gen. Conf. – Trends in Physics (EPS 10) Sevilla, E 9-13
September 1996,

<http://www.trendsinphysics.info/>

Citation from: Particles, Waves and Trends in Physics

<http://vixra.org/pdf/1404.0273v1.pdf> :

Albert Einstein , who, in his search for a Unified Field Theory , did not accept wave-particle duality,
wrote: ^[4]

This double nature of radiation (and of material corpuscles)...has been interpreted by
quantum-mechanics in an ingenious and amazingly successful fashion. This
interpretation...appears to me as only a temporary way out...

[4] Paul Arthur Schilpp, ed, *Albert Einstein: Philosopher-Scientist* , Open Court (1949),
ISBN 0-87548-131-7 , p 51.

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