The Masses of the Baryons in Cold Genesis Theory of Fields and Particles

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Abstract

The masses of the baryons in the author's cold genesis theory of fields and particles are presented in a comparative table.

Baryons experimental mass (GeV); J^p ½	Theor. mass, (Souza): u(0.31); s(0.5); c(1.7); b(5)	Theoretic mass, (CG)* : p^*(0.312); λ^*(0.435); s^*(~0.5); v(0.574); c^*(1.722); b^*(5.166)	Observations/(GeV) -predicted baryons- (‘ =”prime charmed”)
N (0.938÷0.939) ; (udd)	~0.939	~0.939; (ppn); (pnn)	( )^d-de-excited state
$-\Delta^{(++;+;0;-)}$ (1.232)	1.24 (n+m+k=1)	~1.25; $(s^{\pm} + \lambda^{\pm} + p^{+}(n^{-}))^*$	≈0.31x4 =4u (comp.q)
$-\Lambda^0$ (1.115) (uds)	1.12 (n+m+k=0)	~1.13; $(s + n + p)^*$	$c^* = 3v$; $b^* = 3c^*$
$-\Sigma^+$; Σ^- ; Σ^0 (1.189÷1.197) (uus; uds ; dds)	1.12 (n+m+k=0)	~1.199 ; ~1.2; $(v+2p)^*$; $(v+p+n)^*$; $(v+2n)^*$	discr. at Souza: 6.3% discr. at CGT: 0.25%
$-\Xi^0$(1.314); Ξ^-(1.32) (u;d)ss	1.31 (n+m+k=0)	~1.321; 1.323; $(2s+p)^*$;$(2s+n)^*$	$(2s+\lambda)$= 1.44
$-\Omega^-$ (1.675) (sss)	1.5 (n+m+k=0)	1.722 $(3v)^*$; 1.653 $(2v+s)^*$	$(3v)^d$ =1.7; $(3s) \approx 1.5$
θ^- (1.521)	1.5 (n+m+k=0)	1.514 $(v + s + \lambda)^*$	(v+2s)= 1.583
$-\Lambda_c^+$ (2.286) (udc)	2.32 ; (n+m+k=0)	2.347 $(pnc)^* = (pnc^*)$	$-(2.325)^d$; $(c^* = 3v)$
$-\Lambda_b^+$ (5.619) (udb)	5.62 ; (n+m+k=0)	5.791 $(pnb)^* = (pnb^*)$	$-(5.625)^d$; $(c^* = 3v)$
$-\Sigma_c^{++}$(2.454) (uuc)	2.63 (n=1; m+k=0)	2.469 $(p\lambda^+c)^*$; $(ppc)^* = 2.346$	$-(2.447)^d$
$-\Sigma_c^+$(2.4529) (udc)	2.63 (n=1; m+k=0)	2.469 $(p\lambda^-c)^*$; $(pnc)^* = 2.347$	$(2.447)^d$; $(psc)^d = 2.5$;
$-\Sigma_c^0$(2.4537) (ddc)	2.63 (n=1; m+k=0)	2.47 $(n\lambda^-c)^*$; $(nnc)^* = 2.348$	$(2.448)^d$
$-\Sigma_b^+$(5.811) (uub)	5.62 (n+m+k=0)	5.79$(ppb)^*$; 5.913 $(p\lambda^+b)^*$	$(ps^+b)^d$ =5.808
$-\Sigma_b^0$(unknown) (udb)	5.62 ----“-------	5.791$(pnb)^*$; 5.913 $(p\lambda^-b)^*$	$(ns^-b)^d$= 5.809
$-\Sigma_b^-$(5.815) (ddb)	5.62 ----“-------	5.792$(nnb)^*$; 5.914 $(n\lambda^-b)^*$	$(ps^-b)^d$ =5.808
$-\Xi_c^+$ (2.467); (usc)	2.51 ----“-------	2.53 $(psc)^*$	$(2.512)^d$
Ξ_c^0(2.47) (dsc)	2.51 ----“-------	2.531 $(nsc)^*$	(2.513)^d
$-\Xi_c^+$ (2.575); (usc)	2.51 ----“-------	2.608 $(pvc)^*$	(2.586)^d
$\Xi_c^{'0}$(2.578) (dsc)	2.51 ----“-------	2.609 $(nvc)^*$	(2.587)^d
$-\Xi_{cc}^{++}$ (3.621); (ucc)	3.71 ----“-------	3.756 $(pcc)^*$	$(3.712)^d$
Ξ_{cc}^+ (unknown) (dcc)	3.71 ----“-------	3.757 $(ncc)^*$	(3.713)^d
Ξ_b^0(5.788) (usb)	5.81 ----“-------	$(psb)^* = 5.978$;	(5.812)^d; $(pnb)^d$=5.62
Ξ_b^-(5.791) (dsb)	5.81 ----“-------	$(nsb)^* = 5.979$; ;	$(5.813)^d$; $(nnb)^d \approx 5.62$
Ξ_b^0 (unknown) (usb)	5.81 ----“-------	5.913 $(p\lambda b)^*$	$(5.747)^d$
$\Xi_b^{'-}$(unknown) (dsb)	5.81 ----“-------	5.914 $(n\lambda b)^*$	(5.748)^d
Ξ_{bb}^0(unknown) (ubb)	10.31 ----“-------	10.644 $(pbb)^*$	$(10.312)^d$
Ξ_{bb}^-(unknown) (dbb)	10.31 ----“-------	10.645 $(nbb)^*$	$(10.312)^d$
Ξ_{cb}^+(unknown) (ucb)	7.01 ----“-------	7.2 $(pcb)^*$	$(7.012)^d$
Ξ_{cb}^0(unknown) (dcb)	7.01 ----“-------	7.201 $(ncb)^*$	(7.013)^d
$\Xi_{cb}^{'+}$(unknown) (ucb)	7.01 ----“-------	7.323 $(\lambda^+cb)^*$	$(7.135)^d$
$\Xi_{cb}^{'0}$(unknown) (dcb)	7.01 ----“-------	7.323 $(\lambda^-cb)^*$	$(7.135)^d$
$-\Omega_c^0$ (2.695) (ssc)	2.7 ----“-------	2.722 $(ssc)^*$; $(\lambda sc)^* = 2.657$	$(2.7)^d$; $(\lambda\lambda c)^d = 2.57$
$-\Omega_b^-$ (6.071) (ssb)	6 ----“-------	$(ssb)^* = 6.166$; $(\lambda sb)^* = 6.101$	(≈6)^d ; $(\lambda\lambda b)^d$ = 5.87
$-\Omega_{cc}^+$ (unknown) (scc)	3.9 ----“-------	3.944 $(scc)^*$; $(vcc)^* = 3.99$	(3.9)^d ; $(\lambda cc)^d$ =3.44

$-\Omega_{cb}^{0}$ (unknown) (scb)	7.2 ----"-------	7.388 (scb)*	(7.2)[d]
$-\Omega_{cb}^{0}$ (unknown) (scb)	7.2 ----"-------	7.462 (vcb)*	(7.247)[d]
$-\Omega_{bb}^{-}$ (unknown) (sbb)	10.5 ----"-------	10.832 (sbb)*	(10.5)[d]
$-\Omega_{ccb}^{+}$ (unknown) (ccb)	8.4 ----"-------	8.61 (ccb)*	(8.61)[d]
$-\Omega_{cbb}^{0}$ (unknown) (cbb)	11.7 ----"-------	12.05 (cbb)*	(12.05)[d]
$-\theta_{c}^{0}$ (unknown)		2.657 $(\lambda sc)^{*}$; $(\lambda vc)^{*}$=2.731;	(2.635)[d] ; $(\lambda vc)^{d} \approx 2.7$
$-\theta_{b}^{-}$ (unknown)		6.175 $(\lambda vb)^{*}$	(6.009)[d]