

**Table I: The Massive Particular Fundamentals of the Universal Meta-Calculus**

$H^0$ Heavy Higgs	6.4437146656 TeV ←	$N_U/4 = 50.7510373445$ Is Set, so sets up this set up	<b>s****</b>
$A^0$ CP odd Higgs pseudoscalar boson	360.492670779 GeV	(primary deductions ( <b>d</b> ) or strong derivations <b>***</b> are 'proven' by meta-calculus, but remain (KK) inferred) = $m^{H^\pm} \times 3$ (!, & squarks will demand it!)	<b>d***</b>
$m_0$ gaugino ${}^A\Delta m_0 = A^0 - m_0 =$	359.9995190894 GeV ————— ← = .4931516925 GeV	$241 + N_U/12 - N_U = N_U/4 + X = 3Z + X = R_{mo}^{pl}$ = 54.912863070594 = $2^{8.5 + 1/(241/20)} \times m_{p+e}$	<b>s****</b>
$U_2$ upper Higgs value or $2e/3$ top doublet	vacuum expectation i.e. 'raw' $t^{+2/3}\bar{t}^{-2/3}$ pair 343.5613138669 GeV	$1/3 - 1/4 = 1/12$ , so $N_U/3 - N_U/16 = N_U/4 + N_U/48$ ← $R_2^{pl} = 54.9802904565 = (13 \cdot N_U)/48 =$ = $2^{8.5 + 15/(241 \times 4)} \times m_{p+e}$	<b>s****</b>
$m_{1/2}$ gaugino ${}^{U_2}\Delta m_{1/2}$ = $U_2 - m_{1/2}$	340.772997766 GeV —————   = 2.7883161 GeV	← $241 + (1/12 - 1/241) - N_U + N_U/12 = R_{1/2}^{pl} =$ 54.9920470252 = $241 + 17 - 1/(241 \times 12/11) - N_U$ = $m_{p+e} \times 2^{8.5 + 1/(241 \times 12/11)}$ : SuSy,SG,M <sup>D11</sup> ,KK -	<b>s****</b> Univeral Gauges Converge

top quark $m_t =$	171.780656933 GeV	$= \nu_2/2 = 2^{7.5 + 1/(241 \times 4/15)} \times m_{p+e}$	<b>****</b>
$h^0$ light SM Higgs scalar boson	125.102352709 GeV '15LHC - 125.09 $\pm$ 0.24 GeV!	$= \nu_2/3 + \nu_1/8 = m_{(t\bar{t})}/3 + Y_{(b\bar{b})4s}$ - explains & exper. fits Standard Model too well, yet Min. <b>SuSy</b> Higgs!	<b>d****</b>
$H^\pm$ Charged MSS Higgs boson	120.164223593 GeV $6/128 = 1/21.33333 =$	$= A^0/3$ ( $\leftarrow N_{p+e} - 7$ ) $= m_{p+e} \times 128$ (naturally) .046875; so cosmic KK key to <u>baryon count</u> (& thus	<b>d****.*</b> extra star)
$\bar{W}^+$ ( <i>anti</i> -) Wino (or 'chargino')	Carries <i>only</i> +charge Only $R^{Pl}$ fixed <i>directly</i> by Fermat 241 SuSy - 103.884160332 GeV	on <i>creation</i> of -charged bsd or bss by $m_{1/2}$ to spit out + <b>baryons</b> and <i>nonannihilable</i> $Y_o$ <i>antimatter!!</i> (sans [5-star!] Fermi/KK analysis of GeV value) $\leftarrow 56.7058823523 = 241/4.25 = (241 \times 4)/17$	<b>d****</b>  <b>s*****</b>
$Z^0$ neutral <i>Weak</i> vector boson	91.1876329873 GeV since $b\bar{b}$ or $bs$ pair from Z decay	$= W^\pm + Y_{b(4s)} + m_s + m_d$ confirming $W$ & $Z^0$ only possible if $Z^0$ also $= 9 \times Y_{b(4s)} + m_s - m_b$	<b>d****p*</b> $\Delta$ Proof in puddin'
$\nu_1$ H-vac. min.	84.6553126024 GeV	$= Y_0 \times 2$	<b>****</b>
$W^\pm$ charged $W$	80.4206477667 GeV	$= \nu_1 - m_b - m_d$ (bare b as in $t^+ \rightarrow b^- + W^+$ ( $\rightarrow \bar{l}^+, \nu$ ))	<b>d****</b>

$\Upsilon_0$ neutralino (or Higgsino!)	42.3276563012 GeV	$\leftarrow N_U/4 + N_U/28 = N_U/3 - N_U/21$ , so $R^{pl} = 58.001185536455 = N_U/3.5$	<b>s****</b>
$\Upsilon_b$ (4s) B- $\bar{B}$ res.	10.5819140753 GeV	$= \nu_1/8 = \Upsilon_0/4$ (the resonance being a true 'doublet')	<b>****</b>
$\Xi_b$ (bsd) <sup>-</sup> [ $m(\text{bsu})^0$ ] $\Xi_b^- =$	only -charge <i>possible</i> for <i>material</i> B-baryons (except $\Sigma(\text{buu})^+$ of course) 5.794.66767747 GeV	So $^+\bar{W}$ inos serve <b>3</b> purposes: as <i>antimatter to (bsd)<sup>-</sup></i> (or bss) baryonic matter upon creation, spewing antineutralinos and +matter (protons or lambda <sub>c</sub> s) in decay $= m(\text{bdu})^0 + (m_s - m_d)$ [so it follows that $m(\text{bsu})^0 = -m_H$ !]	<b>d****</b>
$\nu_1 \div 15 =$ $\dots m(\text{d+d+u}) =$ $\Lambda^0/64 = 6 \times m_{p+e}$ $- m(\text{bdu})^0$	5.643687506826 GeV 5.6249911487146 GeV = 5.63269798092 GeV = 7.70549515 MeV	Implies b,s:d mixing with ups (with CP broken first by $m_0$ ) to get predominately neutral b-baryons [with or w/o explicit (bsu) $\rightarrow$ (bdu)]: Anyway the value $(\Lambda^0 - m_0) = 493.15169$ MeV $\sim$ charged kaons, but scales K <sup>0</sup> 's below, as $= (\Lambda^0 - m_0)/64$ (so a strange mix indeed)	comments: (strong CP conserved by axions as 0-gaugino violates CP)
$\Lambda_b^0$ (bdu) <sup>0</sup>	5.62499248577 GeV	$= m_0/64$	<b>****</b>
bottom $m_b =$	4.226901567 GeV	$= [(a/6) + 1] \times m_s$	<b>d****</b>

$u_2 \Delta m_{1/2}$ $= \mathbf{u}_2 - m_{1/2} =$  (And so for a little extra <i>homework</i> :	2.7888290336 2.788318904 2.7883161      GeV 2.788304463 2.788286410 2.78815966715	$= \{m_{p+e} \times 2^{\pi/2}\}$ <u>A taste of Fermi/KK physics</u> $= \{-m_e\}$ ; -> so +charge & spin non-ambiguous $= 3(m_{p+e} - m(2d+u)/2)^0$ (so, like $\mathbf{u}_2 - m_{1/2}$ , charge neutral) $= m_b - m_c - m_s - m_d$ (charge ambiguous) $= m(2u+d)^+ \times a_2$ (Can you spot the major sources of non-exactness?)	Some <i>charming</i> curiosities, quarks and flavors
$\Omega_c^0$ (css) <sup>o</sup>	2.6996627616      GeV	$\cong (\mathbf{u}_2 - m_{1/2}) - (m_s)/2$ But are there some better alternative?	<b>**</b>
$\Lambda_c^+$ (cud) <sup>+</sup> Charmed Lambda	2285.14396122 2,284.85171698      MeV 2284.63296232	$< \{*(\mathbf{u}_2 - m_{1/2}) - (A^0 - m_0)\} - m(3u+1e)^+$ , but should be $\{(m_{p+e} \times 2^{\pi/2} - m_e)^+$ <u>charge &amp; spin non-ambiguous</u> , so $= - (A \Delta_{m_0})^0 - (m_d + m_u + m_e + (2 \times d \Delta_u))^0/2$ $\geq \{*\}$ ; - $m(3u+2e)^0$ <i>transfer +charge</i> , so 0:+, not +:at removal)	<b>***</b> preferred, tho maybe <i>imperfect</i> eq. value
charm $m_c =$	1.25354401305 GeV	$= m_t/a = m_t \times \alpha$ almost too simple and strong!	<b>d****</b>
$m_p + m_e =$	938.782996828 MeV	$N_{p+e} = 63.4958506224$ pure <b>:KK-gauge:</b> $m_{p+e}$ metric	measure
$K^0$ ( $s\bar{d}$ ) <sup>o</sup> ( $\bar{s}d$ ) <sup>o</sup>	497.6873732      MeV	$= 65(A^0 - m_0)/64 - m_u = \{ \Delta_{m_0}^{A^0} \times 65/64\} - m(d+u) + d$	<b>***</b>

$K^{\mp} (\bar{s}u)^- (\bar{s}u)^+$	493.679368806 MeV	$= (64 \times m_d) - m_u = (63 \times m_d) + d\Delta_u$	<b>d****</b>
strange $m_s =$	177.307876796 MeV	$\leftarrow Na_2/3 = 65.9003857060$ <i>pure gauge for <math>e^-/3</math></i>	<b>s*****</b>
$\pi^{\pm} (u\bar{d})^+ (d\bar{u})^-$	139.5698652 MeV	$= \pi^o + d\Delta_u = P_{\text{ivac}} - m_d - m_e = P_{\text{ivac}} + 2m_d - m_u$	<b>d****</b>
pion vacuum Parameters $P_{\text{ivac}} =$	147.84413261 sans $-(ms) \rightarrow$ - 20.6309886374 = 127.213144 MeV =	$\frac{(m(H^{\pm}) - \sqrt{2} \cdot m(v_1))}{3} - (m_d + m_u + m_e + (2 \times d\Delta_u))$	a taut KK tautology
$\pi^o (u\bar{u})^o$ or $(d\bar{d})^o$	134.9764125 MeV	$= \pi^{\pm} - d\Delta_u = P_{\text{ivac}} + m_d = P_{\text{ivac}} - m_u + (m_d + m_u)$	<b>d****</b>
down quark $m_d =$	7.7632685096 MeV	$= m_s/(a/6)$	<b>d*****</b>
$d\Delta_u$ d-u differential or change	4.5934527179 MeV	$= m_d - m_u = \pi^{\pm} - \pi^o$	<b>p*****</b> best pud- din's <b>pie</b>

$m(u+u+e)$ $- m_e = m(u+u)$ up quark $m_u =$	= 6.8506304856 MeV = 6.3396315836 MeV thus, dividing by 2 = 3.1698157918 MeV	= $m_{p+e}/a = m_c/2^{7.5+1/241 \times 4/15}$ ... so, the nut-shell lesson of = $(m_{p+e} - [m_e \times a])/a$ ... Multi-Dual KK-Meta-Logic is: = $((m_{p+e}/a) - m_e)/2 = [(m_c/2^{7.5+1/(241 \times 4/15)} - m_e)]/2$	As Above, So Below - As Below, So Above <b>d****</b>
electron $m_e =$	.510998902 MeV	present (1999-2001) experimental (book) value	measured
neutrino sector	.0213664129 eV	= $Na_2/2$ mass mixing over $2\pi \times \uparrow + 2\pi \times \downarrow$ over axion	a puzzle?
axion $m_a =$	.00340057 eV	$\leftarrow N_U/2 = 101.502074689$	<b>s****</b>

### Food for Future Thought

In regard to that nut-shell synopsis of Kaluza-Klein meta-physics and the up-quark, two immediate mutually-dual purposes are alluded to - beyond the implied kaon mediated CP symmetry-breaking by the  $m_o$  -gaugino to get a neutral b-Lambda baryon 'from above' in regard to its greater '241 gauging' from which all such 'Set' values are derived from 'From Above' via the Monolith Number to begin with. First, it would be wise to ponder the fact that, ultimately, the up quark's mass derivation is independent of the other quarks by being only determinable by the combined p+e mass (by simply reversing the time-worn reference in nuclear physics texts to the pionic Yukawa coupling in regard to the charged pion mass roughly being  $2xa$  times the electron's mass. While this derivation is 'from above' in terms of  $m_{p+e}$ , as well as, mutually, from charm by reversing the p+e to top relation, charm is gauged 'from above' by top but are as

indeterminable of up as is up of them (close don't count). It is also recommended that you study its significance to not only the down quark and d-u differential, but in combination with the electron, in regard to 'charge count conservation' of the quark content, if only to verify any admittedly shakier calculations of hadrons from their quark content. For the 'purpose' of everything here is to *get* To Below, From Above, while the physical validity of the meta-mapping ultimately is best confirmable From Below by the self-evident isomorphisms with the *'fundamental' constituents* of stable free matter - within the proton, and the electron itself - their charge, obviously, being the only determinate of what this term even means. So, secondly, the lowly mass of the misnomered (at least 'from below') 'up' quark, as well as its +2/3-charge, will be instrumental in regard to the fundamental 'flavored' parameters of the more truly literal Up *squark* in setting up the full tautology of the extended supersymmetry sector *From Above*.

Which will grandly support our rather revolutionary claim of baryons being naturally *as* 'fundamental' as their quarks with respect to both Winos and neutralinos/Higgsinos (or so-called 'WIMP dark matter), basically being *baryon anti-matter* (stable and unannihilable, 'Weakly Interacting' and a relatively Massive Particle, indeed with respect to *only* the *weakest* force, *gravity!*)! In this regard, the  $m_{1/2}$ -gaugino will be better seen as a supersymmetric fermion equivalent to a basically neutral gauge boson as the effective *source* of a charged +Wino fermi gauge particle and a *non-ambiguously* - charged (ok, (bss)) b-baryon. We will set up this ultimate feat of informed speculation by a multi-dual mapping to a re-vamped classical Kaluza-Klein formulation of supersymmetric electro-(super)gravity From Above, whereby a SuSy reformulation of the so-called 'standard model' of electroweak symmetry breaking nearer the scale of the 'Fermi energy' associated with the *weak coupling constant* with respect to our only method of establishing metrical analysis for such concepts as 'inverse squared-energies' - From Below, with respect a numeric *derivation* of the Fermi energy from the relatively 'low energy'  $m_{p+e}$  KK-gauge! This will set up the analysis for the sleptons, leptons, and perhaps symmetry itself, from a more fundamental basis.