Quark Masses Q_A and Q_B with Particle Masses in MeV and Mass Law Exponents y

Neutron **Prototype** Series

Group	Name	Mass	Quarks	y	--- in Paradigm Groups of PDG Summary Table Accredited Listings
0. Base	**n** 939.56	939.56	$\mathbf{d_A d_A u_A}$	3.959	
1. Isoton Isomers	N (1440)	1440±	$\mathbf{d_A d_A u_B}$	4.278	± indicates the listed limits of PDG uncertainty of mass to condense comparable tables on a page.
	N (1520)	1520±	"	4.328	
	N (1535)	1535±	"	4.337	
2. Isoton Isomers	N (1650)	1655±	$\mathbf{d_A d_B u_A}$	4.278	Subscript A calls for the lighter of the two masses of any quark. B calls for the heavier mass of that quark in that named baryon particle.
	N (1675)	1675±	"	4.289	
	N (1680)	1685±	"	4.293	
3. Isoton Isomers	N (1700)	1700±	$\mathbf{d_A d_B u_B}$	4.246	
	N (1710)	1710±	"	4.252	
	N (1720)	1720±	"	4.257	
4. Isoton Isomers	N (2190)	2190±	$\mathbf{d_B d_B u_A}$	4.371	In the 3 Δ Series, the ± mid masses are the PDG masses, and the high end and low end masses are at the PDG ± mass limits.
	N (2220)	2250±	"	4.396	
	N (2250)	2275±	"	4.406	
5. Isoton	N (2600)	2600±	$\mathbf{d_B d_B u_B}$	4.480	

(Some PDG listings, as marked, with wide uncertanties, are split below to extend accredited PDG data trends that are explained by this paradigm.)

	++				+				0				−
	Δ⁺⁺ Series (Paradigm Ω^-plan)				Proton **Prototype** Series				**Δ⁰** Series (Paradigm n plan)				Omega Minus **Prototype** Series
Group	Name	Mass	Quarks	y	Name	Mass	Quarks	y	Name	Mass	Quarks	y	Name Mass Quarks y
0. Base	Δ(1232)⁺⁺	1231	$\mathbf{u_A u_A u_A}$	4.885	**p** 938.27	938.27	$\mathbf{u_A u_A d_A}$	4.236	Δ(1232)⁰	1233	$\mathbf{d_A d_A u_A}$	4.206	**Ω⁻** 1672.5 1672.5 $\mathbf{s_A s_A s_A}$ 1.740
	(Low mass, NOT FULL ACCR)				(Mid Δ⁺ masses fill proton series)				(High end Δ mass range)				
1. Isoton	Δ(1600)⁺⁺	1550	$\mathbf{u_A u_A u_B}$	4.955	Δ(1232)⁺	1232±	$\mathbf{u_A u_B d_A}$	4.391	Δ(1620)⁰	1660	$\mathbf{d_A d_A u_B}$	4.408	Ω(2250)⁻ 2252± $\mathbf{s_A s_A s_B}$ 1.9236
Isomers	Δ(1620)⁺⁺	1600	"	4.984					Δ(1600)⁰	1700	"	4.430	
	Δ(1700)⁺⁺	1670	X----------X		(PDG does not separate or show				(Note PDG inverted mass order)				(PDG accredited above,
	(Not in Paradigm, over y limit of 5)				mixed charges beyond Δ(1232).)								not accredited Listings below.)
2. Isoton	Δ(1905)⁺⁺	1865	X----------X		Δ(1600)⁺	1600±	$\mathbf{u_B u_B d_A}$	4.545	Δ(1700)⁰	1750	$\mathbf{d_A d_B u_A}$	4.329	Ω(2380)⁻ 2380± $\mathbf{s_A s_B s_B}$ 1.895
Isomers	Δ(1910)⁺⁺	1870	X----------X		Δ(1620)⁺	1630±	"	4.562					
	Δ(1920)⁺⁺	1920	X----------X										
3. Isoton	Δ(1930)⁺⁺	1900	$\mathbf{u_B u_B u_B}$	4.912	Δ(1700)⁺	1700±	$\mathbf{u_A u_A d_B}$	4.6	Δ(1905)⁰	1915	$\mathbf{d_A d_B u_B}$	4.355	Ω(2470)⁻ 2474± $\mathbf{s_B s_B s_B}$ 1.857
Isomers	Δ(1950)⁺⁺	1915	"	4.919					Δ(1910)⁰	1920	"	4.357	(End Ω⁻ Series format---
4.Isoton	(End Δ⁺⁺ Series)				Δ(1905)⁺	1890±	$\mathbf{u_A u_B d_B}$	4,6	Δ(1950)⁰	1950	$\mathbf{d_B d_B u_A}$	4.266	both − & ++ series fragmented.
Isomers					Δ(1910)⁺	1910±	"	4.6	Δ(1920)⁰	1970	"	4.275	Starts Strange Quark Series
					Δ(1920)⁺	1920±	"	4.6	Δ(1930)⁰	2020	"	4.298	with other Prototypes.)
					Δ(1950)⁺	1930±		4.564	(PDG inversion of mass order)				
	(3 same quarks have only 4 variations of A & B masses.)				Δ(1930)⁺	1960±	"	4.578					
					(6 forms of 2 sets A/B masses)								
5. Isoton					Δ(2420)⁺	2420±	$\mathbf{u_B u_B d_B}$	4.705	Δ(2420)⁰	2500	$\mathbf{d_B d_B u_B}$	4.445	

In Paradigm Group and Mass Order

Comparison of: **Λ^0 Series** (Paradigm n plan) **Σ^0 Series** (also n plan, with same uds quarks per PDG)

P'd'm	Group	PDG Name & Mass	P'd'm	Quarks	y
	0. Base	Λ^0 1115.683		$\mathbf{u_A d_A s_A}$	2.297
	1. Isoton	$\Lambda(1405)^0$ 1406 ±4		$\mathbf{u_B d_A s_A}$	2,497
	2. Isoton	$\Lambda(1520)^0$ 1519.5 ±1		$\mathbf{u_A d_B s_A}$	2.549
	3. Isoton	$\Lambda(1600)^0$ 1600 +100 −40		$\mathbf{u_B d_B s_A}$	2.586
PDG duplicate	Isomers	$\Lambda(1670)^0$ 1670 ±10	"		2.625
		$\Lambda(1690)^0$ 1690 ±5	"		2.635
	4. Isoton	$\Lambda(1800)^0$ 1800 +50 −80		$\mathbf{u_A d_A s_B}$	2.510
	Isomers	$\Lambda(1810)^0$ 1810 +50 −60	"		2.515
		$\Lambda(1820)^0$ 1820 ± 5	"		2.520
		$\Lambda(1830)^0$ 1830 +0 −20	"		2.525
	5. Isoton	$\Lambda(1890)^0$ 1890 +20 −40		$\mathbf{u_B d_A s_B}$	2.547
	6. Isoton	$\Lambda(2100)^0$ 2100 ±10		$\mathbf{u_A d_B s_B}$	2.627
	Isomer	$\Lambda(2110)^0$ 2110 +30 −20			2.632
	7, Isoton	$\Lambda(2350)^0$ 2350 +20 −10		$\mathbf{u_B d_B s_B}$	2.722

P'd'm	Group	PDG Name & Mass	P'd'm	Quarks	y
	0. Base	Σ^0 1192.642		$\mathbf{u_A d_A s_A}$	2.357
	1. Isoton	$\Sigma(1385)^0$ 1383.7 ±4		$\mathbf{u_B d_A s_A}$	2.483
	(PDG accredited masses & names below do not ID charge, as they do above, where P'd'm charge is shown below)				
	(Grp. 2, $\mathbf{u_A d_B s_A}$, has no PDG accredited Σ^0 listings)				
	3. Isoton	$\Sigma(1660)$ 1660 ±30		$\mathbf{u_B d_B s_A}$	2.619
	Isomer	$\Sigma(1670)$ 1670 +15 −5	"		2.625
	4. Isoton	$\Sigma(1750)$ 1750 +50 −20		$\mathbf{u_A d_A s_B}$	2.484
	Isomer	$\Sigma(1775)$ 1775 ±5	"		2.497
	5. Isoton	$\Sigma(1915)$ 1915 +20 −15		$\mathbf{u_B d_A s_B}$	2.359
	Isomer	$\Sigma(1940)$ 1940 +10 −40	"		2.571
	6. Isoton	$\Sigma(2030)$ 2030 +10 −5		$\mathbf{u_A d_B s_B}$	2.596
	7. Isoton	$\Sigma(2250)$ 2250 +30 −40		$\mathbf{u_B d_B s_B}$	2.683
	(This Σ^0 Series is repeated on next page)				

(These two PDG separated sparse series with the same set of quarks could, under the Paradigm, make 1 full series if merged, with particle quality separation by isomer variation. The estimated groupings shown are not necessarily the ultimate optimums. The Paradigm demonstrates overall that different particle charges and quark sets should not belong in the same series, and that same particle charges and quark sets need not be organized separately. The 8 groups have the 8 forms of 3 A/B masses.)

	+			0			−		
	Low Mass Range			Mid Mass Range			High Mass Range		
Compariing:	**Σ^+ Series** (P'digm p plan)			**Σ^0 Series** (P'digm n plan)			**Σ^- Series** (P'digm Ω^- plan)		
Group	Name	Mass	Quarks y	Name	Mass	Quarks y	Name	Mass	Quarks y
0. Base	Σ^+	1189.37	$\mathbf{u_A u_A s_A}$ 2.388	Σ^0	1192.642	$\mathbf{u_A d_A s_A}$ 2.357	Σ^-	1197.449	$\mathbf{d_A d_A s_A}$ 2.329
1. Isoton	$\Sigma(1385)^+$	1382.8 ±4	$\mathbf{u_B u_A s_A}$ 2.511	$\Sigma(1385)^0$	1383.7 ±4	$\mathbf{u_B d_A s_A}$ 2.483	$\Sigma(1385)^-$	1387.2±0.5	$\mathbf{d_B d_A s_A}$ 2.435
	(PDG Named Charged Masses for uds Quarks above, with P'd'm Quarks & y)								
	(Paradigm Group Order below)								
	(P'd'm, no PDG, charge/mass separations)			(Repeating PDG Names and Masses below)			(P'd'm, No PDG, charge/mass separ'ns)		
2. Isoton	$\Sigma(1660)^+$	1630	$\mathbf{u_B u_B s_A}$ 2.655	(Grp. 2, $\mathbf{u_A d_B s_A}$, no accredited listings)			$\Sigma(1660)^-$	1690	$\mathbf{d_B d_B s_A}$ 2.587
Isomer	$\Sigma(1670)^+$	1665	" 2.674				$\Sigma(1670)^-$	1685	" 2.584
							(PDG inverted mass order)		
3. Isoton	$\Sigma(1750)^+$	1730	$\mathbf{u_A u_A s_B}$ 2.500	$\Sigma(1660)$	1660 ±30	$\mathbf{u_B d_B s_A}$ 2.619	$\Sigma(1750)^-$	1800	$\mathbf{d_A d_A s_B}$ 2.485
Isomer	$\Sigma(1775)^+$	1770	" 2.520	$\Sigma(1670)$	1670 +15 −5	" 2.625	$\Sigma(1775)^-$	1780	" 2.475
							(PDG inverted mass order)		
4. Isoton	$\Sigma(1915)^+$	1900	$\mathbf{u_B u_A s_B}$ 2.577	$\Sigma(1750)$	1750 +50 −20	$\mathbf{u_A d_A s_B}$ 2.484	$\Sigma(1915)^-$	1935	$\mathbf{d_B d_A s_B}$ 2.528
Isomer	$\Sigma(1940)^+$	1900 (Dupl!)	" 2.577	$\Sigma(1775)$	1775 ±5	" 2.497	$\Sigma(1940)^-$	1950	" 2.535
Isomer	$\Sigma(2030)^+$	2025	" 2.635				$\Sigma(2030)^-$	2040	" 2.576
	(PDG duplication)								
5. Isoton	$\Sigma(2250)^+$	2210	$\mathbf{u_B u_B s_B}$ 2.707	$\Sigma(1915)$	1915 +20 −15	$\mathbf{u_B d_A s_B}$ 2.359	$\Sigma(2250)^-$	2280	$\mathbf{d_B d_B s_B}$ 2.656
Isomer	(End Σ^+ Series)			$\Sigma(1940)$	1940 +10 −40	" 2.571	(End Σ^- Series)		
6. Isoton				$\Sigma(2030)$	2030 +10 −5	$\mathbf{u_A d_B s_B}$ 2.596			
7. Isoton				$\Sigma(2250)$	2250 +30 −40	$\mathbf{u_B d_B s_B}$ 2.683			

			0			−		
			Ξ^0 Series (P'digm n plan)			**Ξ^- Series** (P'digm Ω^- plan)		
Group	PDG	Name	Mass	P'd'm Name	Mass	Quarks y	P'd'm Name	Mass	Quarks y
0. Base		Ξ^0	1314.83 ±0.2			$\mathbf{u_A s_A s_A}$ 1.879			
0. Base		Ξ^-	1321.31 ±0.13						$\mathbf{d_A s_A s_A}$ 1.866
1. Isoton		$\Xi(1530)^0$	1531.8 ±0.32			$\mathbf{u_B s_A s_A}$ 2.013			
1. Isoton		$\Xi(1530)^-$	1535.0 ±0.6						$\mathbf{d_B s_A s_A}$ 1.987
		(PDG Named Masses for uss/dss Quarks above, with P'd'm Quarks & y)							
		(PDG Named Masses with Paradigm Mass, Charge ID, and Group Order below)							
2. Isoton		$\Xi(1690)$	1690 ±10	$\Xi(1690)^0$	1680	$\mathbf{u_A s_B s_A}$ 1.976	$\Xi(1690)^-$	1700	$\mathbf{d_A s_B s_A}$ 1.972
3. Isoton		$\Xi(1820)$	1823 ±5	$\Xi(1820)^0$	1818	$\mathbf{u_B s_B s_A}$ 2.044	$\Xi(1820)^-$	1828	$\mathbf{d_B s_B s_A}$ 2025
4. Isoton		$\Xi(1950)$	1950 ±15	$\Xi(1950)^0$	1935	$\mathbf{u_A s_B s_B}$ 1.995	$\Xi(1950)^-$	1965	$\mathbf{d_A s_B s_B}$ 1.995
5. Isoton		$\Xi(2030)$	2025 ±5	$\Xi(2030)^0$	2020	$\mathbf{u_B s_B s_B}$ 2.030	$\Xi(2030)^-$	2030	$\mathbf{d_B s_B s_B}$ 2.013
		(End s Baryon Series)							

++ + + 0

Group	Σ_c^{++} Series (Paradigm Ω^- plan) Name	Mass	Quarks y	Σ_c^{+} Series (Paradigm p plan) Name	Mass	Quarks y	Λ_c^{+} Series (P'digm p plan) Name	Mass	Quarks y	Σ_c^{0} Series (Paradigm n plan) Name	Mass	Quarks y
0. Base	$\Sigma_c(2455)^{++}$	2454.02±	$\mathbf{u_A u_A c_A}$ 0.674	(No Σ_c^+ Grp. 0)			Λ_c^+	2286.46±	$\mathbf{u_A d_A c_A}$ 0.607	$\Sigma_c(2455)^0$	2453.76±	$\mathbf{d_A d_A c_A}$ 0.669
1.Isot'n	$\Sigma_c(2520)^{++}$	2518.4±	$\mathbf{u_A u_B c_A}$ 0.697	$\Sigma_c(2455)^+$	2452.9±	$\mathbf{u_B d_A c_A}$ 0.6703	(No Grp.)			$\Sigma_c(2520)^0$	2518.0±	$\mathbf{d_A d_B c_A}$ 0.690
2.Isoton	(No Grp.)			$\Sigma_c(2520)^+$	2517.5±	$\mathbf{u_A d_B c_A}$ 0.6925	(No Grp.)			(No Grp.)		
3.Isoton	(No Grp.)			(No Grp.)			$\Lambda_c(2593)^+$	2595.4±	$\mathbf{u_B d_B c_A}$ 0.7195	(No Grp.)		
4.Isoton	(No Grp.)			(No Grp.)			$\Lambda_c(2625)^+$	2628.1±	$\mathbf{u_A d_A c_B}$ 0.5719	(No Grp.)		
5.Isot'n	$\Sigma_c(2800)^{++}$	2801±	$\mathbf{u_B u_B c_B}$ 0.6308	(No Grp.)			[$\Lambda_c(2765)^+$	2765	$\mathbf{u_B d_A c_B}$ 0.6175]	$\Sigma_c(2800)^0$	2802±	$\mathbf{d_B d_B c_B}$ 0.6244
(End Σ_c^{++} Series)							[PDG Listed--Not PDG Accredited]			(End Σ_c^0 Series)		
6.Isoton				$\Sigma_c(2800)^+$	2792±	$\mathbf{u_A d_B c_B}$ 0.6251	(No Grp.)					
7.Isoton				(No Grp.)			[$\Lambda_c(2880)^+$	2880	$\mathbf{u_B d_B c_B}$ 0.6527]			
							[PDG Listed--Not PDG Accredited]					

(End Series, 13 Feb '08. Combined Σ_c^+ and Λ_c^+ can make an 8 group Series for 3 different quarks, but the same 3.)

Group	Ξ_c^+ Series (P'digm p plan) Name	Mass	Quarks y	Ξ_c^0 Series (Paradigm n plan Name	Mass	Quarks y
0. Base	Ξ_c^+	2467.9±	$\mathbf{u_A s_A c_A}$ 0.6185	Ξ_c^0	2471.0±	$\mathbf{d_A s_A c_A}$ 0.6152
1. Isoton	$\Xi'_c{}^+$	2575.7±	$\mathbf{u_B s_A c_A}$ 0.6567	$\Xi'_c{}^0$	2578.0±	$\mathbf{d_B s_A c_A}$ 0.6538
2. Isoton	$\Xi_c(2645)^+$	2646.6±	$\mathbf{u_A s_B c_A}$ 0.6643	$\Xi_c(2645)^0$	2646.1±	$\mathbf{d_A s_B c_A}$ 0.6619
3. Isoton	(No Grp.)			(No Grp.)		
4. Isoton	$\Xi_c(2790)^+$	2789.2±	$\mathbf{u_A s_A c_B}$ 0.5772	$\Xi_c(2790)^0$	2791 9±	$\mathbf{d_A s_A c_B}$ 0.5761
5. Isoton	$\Xi_c(2815)^+$	2816.5±	$\mathbf{u_B s_A c_B}$ 0.5855	$\Xi_c(2815)^0$	2818.2±	$\mathbf{d_B s_A c_B}$ 0.5810

(End both incomplete series, which should each have 8 groups)

Group	Ω_c^0 Series (Paradigm n plan Name	Mass	Quarks y
0. Base	Ω_c^0	2697.5±	$\mathbf{s_A s_A c_A}$ 0.6427

(End c Baryons. End Incomplete Ω_c^0 Series.)

The Bottom Baryon Series

Group	Λ_b^0 Series (Paradigm n plan Name	Mass	Quarks y
0. Base	Λ_b^0	5624±	$\mathbf{u_A d_A b_A}$ 0.3036

(End Baryon Series. End b Baryons. End Incomplete Λ_b^0 Series.)

Degrees Least Spherical Angle Clearances Between Quanta in Orbits/Spin Sites WITHIN SINGLE QUARK SPHERES **(15° Cone Minimum)**
*= self. USING ORBIT START SITES LISTED IN TEXT AND ALL FORWARD AS LISTED OR ALL REVERSE STATED ROTATIONS

Orbits	A	B	C	A'	B'	C'	++	--	S0	S1	S2	S3	#1	E/C +100% RADII AS TO RIGHT →	#2	E/C +100% RADII AS TO RIGHT→	#3	Ellipse/Circle +100% RADII 30° E. AXIS 45/90° REF
A	*	60	60	45	34	34	60	40	35.3→	→	→	→	32	↓	20	↓	78	↓
B		*	60	34	45	34	75±	75±	35.3→	→	→	→	78		26		30	
C			*	34	34	45	20	30	35.3→	→	→	→	30	↑	72	↑	26	
A'				*	60	60	60	72	35.3→	→	→	→	12OK + RADII		13OK + RADII		49	
B'	REPEAT OF ABOVE				*	60	33	33	35.3→	→	→	→	39		25		87	↑ + RADII
C'	TO RIGHT					*	22	30	35.3→	→	→	→	65		42		12 OK	AS ABOVE
++							*	26	19+ 35	19+ 35			70		22		6.5 OK	AS ABOVE
- -								*	19+ 19	18	19+ 35		27				65	

Octant Centroid Spin Sites & 180° opposites, 0-1-2-3 around C pole hemisphere, added 'Sites make cyls WHICH MUST SYNC, >1pair/site in +100% radius stacks

S0		*	70	→	→	27		→	→
S0'	SyncCyls since 2 cylinders parallel take 22.5 min. vs 18-19 shown								
S1			*	70	→	27		→	→
S1'	SyncCyls								
S2				*	70	27		→	→
S2'	SyncCyls								
S3					*	27		→	→
S3'	SyncCyls								

SEq CW Rot'n & +180 MAY BE ON SURFACE OF SPHERE, NOT C (+ 100% RADIUS CIRCLE) NOR E (+100% MAJOR AXIS ELLIPSE)

#1-7.5°	*	60	→
#2-67.5°		*	60
#3-127.5°			*

100% larger radius Shell

A100 These 3 occur only in some Angle clearances as in ABC above.
B100 isomers of charm, bottom, and top quarks, not all. "
C100 Minimum fixed cone clearances are 7.5° at +100% radius. "

(ONLY CONFLICTS ARE OF A', C', &++ ORBITS AT THE SPHERE SURFACE WITH THE 3 S EQ. ORBITS, WHICH CLEAR BY BEING AT 100% INCREASED RADIUS CIRCLE OR ELLIPSE AT CROSSINGS,. & NEED TO SYNC DOUBLED S & S' SPINNING, IN TWO PARALLEL CYLINDERS ALSO SPINNING AT 2X ORBITAL ANGULAR RATES AROUND THE 4 OCTANT CENTROID S AXES, WITH ++ &-- ORBITS.)

Mutual Interference Exclusions of Gyre Pair Orbits Between the Quarks of Baryon Prototype Plans (in addition to Inside Quarks)
(Closed 3 Quark Cycles)

Baryon	**Proton**			Plan	**Neutron**			Plan	**Omega Minus**			Plan
Quark #	3	1	2	3	3	1	2	3	3	1	2	3`
	Fwd	Prior-Fwd	Prior-Self-Fwd	Prior	Fwd	Prior-Fwd	Prior-Fwd	Prior	Fwd	Prior-Fwd	Prior-Fwd	Prior
Orbit												
A	A B	A C B'	A B		A B	A C	A B		**A c**	**A c**	**A c**	
B		C++ B				B ++			CA' **B**	CA' **B**	CA' **B**	
						CA'++ B						
C	C C	C' C B'	C C		C C		C C		**C**A' **c'**	**C**A' **c'**	**C**A' **c'**	
						CA' C'						
A'	A' B'	A' ++	A' B'		A' B'		A' B'		see above →			
B'	see above →					C' B			C' B	C' B	C' B	
C'	C' C'	"	C' C'		C' C'		C' C'		see above →			
++	++ ++	"	++ ++		++ ++		++ ++		no conflicts btwn qks			

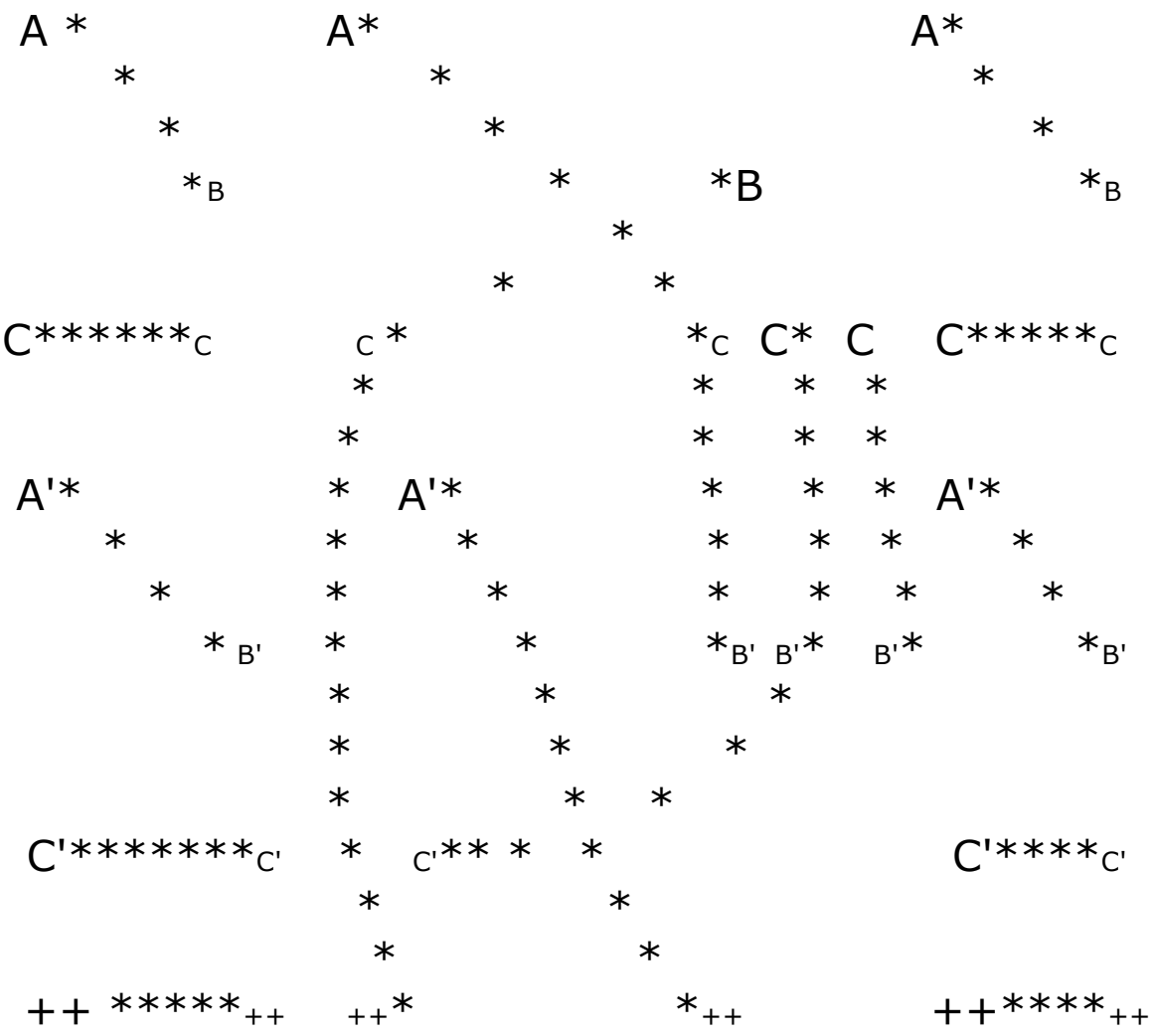
- - has no conflicts between quarks in any plan→

(First item in order is listed large. Items not in own line are small Exclusions are mutual, but items are not shown twice. Double entries can occupy one or the other orbit, but not both. In triples, either entry in the doubled quark excludes the single orbit in the other quark; the single in its quark cuts both in the doubled quark. Prior and Fwd column names refer to conflicts with orbits in prior or later quarks in quark position number sequence around the circle of 3 quarks in a baryon in figures in the main text. Each orbit in each quark may have conflicts with listed orbits in both the prior numbered quark and the later numbered quark or in only one. Proton quark 2 has an internal self conflict between its C and B' orbits, etc. Hard to read, but easy to use if first re-copied with small items on proper lines and different colors for 3 to 1, 1 to 2, 2 to 3 conflict lines. See

further explanation next page, then resultant baryon series site examples that follow.

HOW TO USE PRIOR TABLE ON: Mutual Interference Exclusions of Gyre Pair Orbits Between the Quarks of Baryon Prototype Plans
Though each orbit can only occur once in any quark, copy each symbol at least once for each interference it may have to keep links clear, shift small letters to their proper orbit lines, and draw the links. Then follow the orbit site exclusion rules on prior page.

Baryon **Proton** Plan				**Proton** Plan
Quark #3	#1	#2	#3	#3 #1 #2 #3
Fwd	Prior-Fwd	Prior-Self- Fwd	Prior	Fwd Prior- Fwd Prior- Self Fwd Prior
Orbit				
A	A B	A C B'	A B	
B	C++ B			
C	C C	C' C B'	C C	
A'	A' B'	A' ++	A' B'	
B'	see above			
C'	C' C'	"	C' C'	
++	++ ++	"	++ ++	



- - has no conflicts between quarks in any plan

S spin sites have no conflicts between quarks unless dual, 100% stacked, &/or 2 quarks like that in S0 & S2.

S Eq. sites " " " " " if in their proper 1-2-3 # sites in the S Eq. plane.

ABC 100% larger radius shell stacked sites conflict except in opened mesons & 50-200% expanded baryons.

LEPTON SERIES Lepton, Quark, and Baryon Gyre Pair Orbits/Sites (Basic in Hadrons, Mesons can use any pair of Baryon quark sets, etc.)

LQ/B Type	Electron	Positron	e Neutrino PDG lim mass	Mu Neutrino PDG lim mass	Tau Neutrino PDG lim mas	Muon High Isomer	Muon Low Isomer	Tauon High Isomer	Tauon Low Isomer	Tauon Alt.Isomer
Pairs	**3 --**	**3 ++**	**1 +-**	**3 +-**	**1++,1--,4+-**	**3--,5+-**	**3--,5+-**	**6--,3++,3+-**	**6--,3++,3+-**	**6--,3++,3+-**
Part Orbits	Sphere, Shell 100±	Sphere, Shell 100±	Sphere, Shell 100±	Sphere, Shell 100±	Sphere, Shell 100±	Sphere, Shell 100±	Sphere, Shell 100±	Sphere, Shell 100±	Sphere, Shell 100±	Sphere, Shell 100±
A	- -	++		+ -	+ -	- -	- -	- -	- -	- -
B	- -	++		+ -	+ -	- -	- -	- -	- -	- -
C	- -	++		+ -	+ -	- -	- -	- -	- -	- -
A'						+ -			++	
B'						+ -		+ -	++	++
C'						+ -			++	
++					+ +	+ -			+ -	
- -					- -	+ -		- -	+ -	+ -

Octant Centroid Spin Axis Sites & 180° opposites, 0-1-2-3 around C pole hemisphere, added 'Sites make 2 tangent cylinders around axis, >1pair/site in +100% radius stacks

S0			+ -				+ -	++	+ -	++
S0'							+ -			
S1							+ -	+ -	- -	+ -
S1'										
S2							+ -	++	- -	++
S2'										
S3							+ -	+ -	- -	+ -
S3'										

SEq CW Rotation, S Eq. plane & 180° opposites, MAY BE ON SURFACE OF SPHERE, NOT C (+ 100% RADIUS CIRCLE) NOR E (+100% MAJOR AXIS ELLIPSE)

#1-7.5°					+ -			- -		- -
#2-67.5°								+ +		- -
#3-127.5°								- -		- -
100% larger radius Shell								Not Balanced	Balanced	Not Balanced

A100 These 3 occur, if only 1 per baryon or expanded baryons, in some, not all, expanded
B100 isomers of charm, bottom, and top quarks. Angle clearances as in ABC above.
C100 Minimum usable clearances are 7.5° at +100% radius.

PDG limit masses, 2004 report above.

NEUTRON SERIES (Lepton, Quark, and Baryon/Series Gyre Pair Orbits/Sites, Basic in Hadrons, Mesons can use any pair of Baryon quark sets, etc.)

LQ/B	n 939.	N (1440)	N (1520)	N (1535)	N (1650)	N (1675)	N (1680)	N (1700)	N (1710)	N (1720)
Type	Grp.0 Base	Grp.1 Isoton	Isomer	Isomer	Grp.2 Isoton	Isomer	Isomer	Grp.3 Isoton	Isomer	Isomer
P'r/Q	**Quark Set**	**Quark Set**	**same**	**same**	**Quark Set**	**same**	**same**	**Quark Set**	**same**	**same**
Quarks	d_A d_A u_A	d_A d_A u_B	d_A d_A u_B	d_A d_A u_B	d_A d_B u_A	d_A d_B u_A	d_A d_B u_A	d_A d_B u_B	d_A d_B u_B	d_A d_B u_B
Part/#	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Orbits										
A	+- +-	+- +-	NC NC	NC NC	+- - -	NC NC	NC NC	+- - -	NC NC	NC NC
B	+- +-	+- +-	↓ ↓	↓ ↓	+- ++	↓ ↓	↓ ↓	+- ++	↓ ↓	↓ ↓
C			- -	- -	+- +-	++	++	+- +-	++	++
A'										
B'				++			+-			
C'	+- +-	+- +-								
++	+-	++	++		+-	+-		++		- -
- -	+-	- -			+-	+-	+-	- -	- -	++

Octant Centroid Spin Axis Sites & 180° opposites, 0-1-2-3 CW around C pole hemisphere, 'Sites make 2 tangent cylinders around axis, >1pair/site/quark in +100% radius stacks

S0	+-	+-	++		++		++		++	+-	+-	++					+-	+-	++		++	
S0'																						
S1																						
S1'																						
S2																						
S2'																						
S3																						
S3'																						

SEq CW Rotation, S Eq. plane & 180° opposites MAY BE ON SURFACE OF SPHERE, NOT C (+ 100% RADIUS CIRCLE) NOR E (+100% MAJOR AXIS ELLIPSE)

7.5°#	1	**--E**			**--E**						**--E**						**--E**					
67.5°#	2		**--E**			**--E**						**--E**						--E				
127.5°#	3			**++C**			**++C**			**++C**			**++C**			**++C**			**++C**			**++C**			**++C**

100% larger radius Shell

A100 These 3 occur, if only 1 per baryon or in expanded baryons, in some, not all, isomers
B100 of charm, bottom, and top quarks, which thus expand. Angle clearances as in ABC above.
C100 Minimum usable clearances are 7.5° at +100% radius

NC = no change from Isoton in this Isomer quark below
↓

NEUTRON SERIES (CONT.) (Lepton, Quark, and Baryon/Series Gyre Pair Orbits/Sites.) (Paradigm n Plan, --+ Quark Number Sequence.)

LQ/B	N (2190)	N (2220)	N (2250)	N (2600)	
Type	Grp.4 Isoton	Isomer	Isomer	Grp.5 Isoton	No Isomers in PDG Accredited Listings
P'r/Q	**Quark Set**	**same**	**same**	**Quark Set**	
Quarks	**d_B d_B u_A**	**d_B d_B u_A**	**d_B d_B u_A**	**d_B d_B u_B**	
Part/#	1 2 3	1 2 3	1 2 3	1 2 3	
Orbits					
A	- - - -	NC NC	NC NC	-- - -	
B	++ ++	↓ ↓	↓ ↓	++ ++	
C	+- +-	++	++	+- +-	
A'			+-		
B'					
C'			+-		
++	+-	+-		++	
- -	+-	+-		- -	

Octant Centroid Spin Axis Sites & 180° opposites, 0-1-2-3 CW around C pole hemisphere, 'Sites make 2 tangent cylinders around axis, >1pair/site/quark in +100% radius stacks

S0	+-	+-	++					+-	+-	++	
S0'											
S1											
S1'											
S2											
S2'											
S3											
S3'											

SEq CW Rotation, S Eq. plane & 180° opposites MAY BE ON SURFACE OF SPHERE, NOT C (+ 100% RADIUS CIRCLE) NOR E (+100% MAJOR AXIS ELLIPSE), **BUT NOT IN THE QUARKS OF BARYONS AND MESONS.)**

7.5°#	1	**--E**							**--E**		
67.5°#	2		**--E**							**--E**	
127.5°#	3			**++C**		**++C**		**++C**		**++C**	

100% larger radius Shell

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B100 of charm, bottom, and top quarks, which thus expand. Angle clearances as in ABC above.
C100 Minimum usable clearances are 7.5° at +100% radius

NC = no change from Isoton in this Isomer quark below
↓

PROTON SERIES (Lepton, Quark, and Baryon/Series Gyre Pair Orbits/Sites. Paradigm p Plan, ++- Quark Number Seauence.)

LQ/B	p^+ 938.	$\Delta(1232)^+$	$\Delta(1600)^+$	$\Delta(1620)^+$	$\Delta(1700)^+$	$\Delta(1905)^+$	$\Delta(1910)^+$	$\Delta(1920)^+$	(CONT.)
Type	Grp.0 Base	Grp.1 Isoton	Grp.2 Isoton	Isomer	Isomer	Grp.3 Isoton	Isomer	Isomer	**GRPS. 2,3,4,5 ARE NOT**
P'r/Q	**Quark Set**	**Quark Set**	**Quark Set**	**same**	**same**	**Quark Set**	**same**	**same**	**FULLY PDG ACCREDITED**
Quarks	u_A u_A d_A	u_A u_B d_A	u_B u_B d_A	u_B u_B d_A	u_B u_B d_A	u_A u_A d_B	u_A u_A d_B	u_A u_A d_B	**IN POSITIVE CHARGE**
Part/#	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	
Orbits									
A	+-	+-	+-	NC NC +-	NC NC +-	- -	NC NC - -	NC NC - -	
B	+-	+-	+-	↓ ↓ +-	↓ ↓ +-	++	↓ ↓ +-	↓ ↓ +-	
C	+-	+-	+-	+-	+-	+-	+-	+-	
A'									
B'									
C'					+-			++	
++	+- +-	+- ++	++ ++			+- +-			
- -	+- +-	+- - -	- - - -	+-		+- +-	++		

Octant Centroid Spin Axis Sites & 180° opposites, 0-1-2-3 CW around C pole hemisphere, 'Sites make 2 tangent cylinders around axis, >1pair/site/quark in +100% radius stacks

S0	++	++	+-	++	++	+-	++	++	+-							++	++	+-				
S0'																						
S1																						
S1'																						
S2																						
S2'																						
S3																						
S3'																						

SEq CW Rotation, S Eq. plane & 180° opposites MAY BE ON SURFACE OF SPHERE, NOT C (+ 100% RADIUS CIRCLE) NOR E (+100% MAJOR AXIS ELLIPSE)

7.5°#	1	**++E**			**++E**			**++E**								**++E**						
67.5°#	2		**++E**			**++E**			**++E**								**++E**					
127.5°#	3			**- -C**			**- -C**			**- -C**			**- -C**			**- -C**			**- -C**			**- -C**

100% larger radius Shell

A100 These 3 occur, if only 1 per baryon or in expanded baryons, in some, not all, isomers
B100 of charm, bottom, and top quarks, which thus expand. Angle clearances as in ABC above.
C100 Minimum usable clearances are 7.5° at +100% radius

NC = no change from Isoton in this Isomer quark below
↓

PROTON SERIES CONT. (Lepton, Quark, and Baryon/Series Gyre Pair Orbits/Sites)

LQ/B	$\Delta(1930)^+$			$\Delta(1950)^+$			$\Delta(2420)^+$		
Type	Grp.4 Isoton			Isomer			Grp.5 Isoton		
P'r/Q	**Quark Set**			**same**			**Quark Set**		
Quarks	u_A	u_B	d_B	u_A	u_B	d_B	u_B	u_B	d_B
Part/#	1	2	3	1	2	3	1	2	3
Orbits									
A		-	-	NC	NC	- -		-	-
B		++		↓	↓	++		++	
C		+-				+-		+-	
A'									
B'									
C'									
++	+-	++					++	++	
- -	+-	- -				+-	- -	- -	

Octant Centroid Spin Axis Sites & 180° opposites, 0-1-2-3 CW around C pole hemisphere, 'Sites make 2 tangent cylinders around axis, >1pair/site/quark in +100% radius stacks

S0	++	++	+-				++	++	+-
S0'									
S1									
S1'									
S2									
S2'									
S3									
S3'									

SEq CW Rotation, S Eq. plane & 180° opposites MAY BE ON SURFACE OF SPHERE, NOT C (+ 100% RADIUS CIRCLE) NOR E (+100% MAJOR AXIS ELLIPSE)

7.5°#	1	**++E**					**++E**		
67.5°#	2		**++E**					**++E**	
127.5°#	3			**- -C**		**- -C**			**- -C**

100% larger radius Shell

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B100 of charm, bottom, and top quarks, which thus expand. Angle clearances as in ABC above.
C100 Minimum usable clearances are 7.5° at +100% radius

GRPS. 2,3,4,5 ARE NOT FULLY PDG ACCREDITED IN POSITIVE CHARGE ONLY WITH UNDETERMINED CHARGE & WIDE MASS UNCERTAINTIES. (SERIES WHICH FOLLOW IN THIS FORMAT LARGELY KEPT TO AS IS FULLY PDG ACCREDITED PARTICLE STATUS WITH PARADIGM ORBIT GROUPS.)

NC = no change from Isoton in this Isomer quark below
↓

Ω⁻ SERIES (Lepton, Quark, and Baryon/Series Gyre Pair Orbits/Sites. Paradigm Ω⁻ Plan, --- or +++ Quark Number Sequence)

LQ/B	Ω (1672)⁻			Ω (2250)⁻			Ω (2380)⁻			Ω (2470)⁻		
Type	Grp.0 Base			Grp.1 Isoton			Grp.2 Isoton			Grp.3 Isoton		
P'r/Q	**Quark Set**			**Quark Set**			**Quark Set**			**Quark Set**		
Quarks	s_A	s_A	s_A	s_A	s_A	s_B	s_A	s_B	s_B	s_B	s_B	s_B
Part/#	1	2	3	1	2	3	1	2	3	1	2	3
Orbits												
A	++	++	++	++	++	+-	++	+-	+-	+-	+-	+-
B	++	++	++	++	++	+-	++	+-	+-	+-	+-	+-
C												
A'												
B'												
C'	--	--	--	--	--	+-	--	+-	+-	+-	+-	+-
++	++	++	++	++	++	++	++	++	++	++	++	++
- -	--	--	--	--	--	--	--	--	--	--	--	--

GROUPS 2 & 3 ARE PDG LISTED BUT NOT ACCREDITED

Octant Centroid Spin Axis Sites & 180° opposites, 0-1-2-3 CW around C pole hemisphere, 'Sites make 2 tangent cylinders around axis, >1pair/site/quark in +100% radius stacks

S0	--	--	--	--	--	+-	--	+-	+-	+-	+-	+-
S0'												
S1												
S1'												
S2						+-		+-	+-		+-	+-
S2'												
S3												
S3'												

SEq CW Rotation, S Eq. plane & 180° opposites MAY BE ON SURFACE OF SPHERE, NOT C (+ 100% RADIUS CIRCLE) NOR E (+100% MAJOR AXIS ELLIPSE)

7.5°#1	**--E**	**--E**	**--E**	**--E**
67.5°#2	**--E**	**--E**	**--E**	**--E**
127.5°#3	**- -E**	**- -E**	**- -E**	**- -E**

100% larger radius Shell

A100 These 3 occur, if only 1 per baryon or in expanded baryons, in some, not all, isomers
B100 of charm, bottom, and top quarks, which thus expand. Angle clearances as in ABC above.
C100 Minimum usable clearances are 7.5° at +100% radius

NC = no change from Isoton in this Isomer quark below
↓

Λ^0 SERIES (Neutron Plan Series Gyre Pair Orbits/Sites.)

LQ/B	Λ^0 1116	Λ^0 (1405)	Λ^0 (1520)	Λ^0 (1600)	Λ^0 (1670)	Λ^0 (1690)	Λ^0 (1800)	Λ^0 (1810)	Λ^0 (1820)	Λ^0 (1830)
Type	Grp.0 Base	Grp.1 Isoton	Grp.2 Isoton	Grp.3 Isoton	Isomer	Isomer	Grp.4 Isoton	Isomer	Isomer	Isomer
P'r/Q	**Quark Set**	**Quark Set**	**Quark Set**	**Quark Set**	**same**	**same**	**Quark Set**	**same**	**same**	**same**
Quarks	d_A s_A u_A	d_A s_A u_B	d_B s_A u_A	d_B s_A u_B	d_B s_A u_B	d_B s_A u_B	d_A s_B u_A	d_A s_B u_A	d_A s_B u_A	d_A s_B u_A
Part/#	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Orbits										
A	+- ++	+- ++	- - ++	- - ++	NC NC	NC NC	+- +-	NC NC	NC NC	NC NC
B	+- ++	+- ++	++++	++++	↓ ↓	↓ ↓	+- +-	↓ ↓	↓ ↓	↓ ↓
C	++	++	++	++						
A'	+-	++	+-	++	++	++	+-	+-	+-	
B'	+-	- -	+-	- -		- -				++
C'	+- ++	+- ++	+- ++	+- ++			+- +-			
++	++		++		++		++	++	++	+-
- -	- -	- -	- -	- -	- -		- -		+-	+-

Octant Centroid Spin Axis Sites & 180° opposites, 0-1-2-3 CW around C pole hemisphere, 'Sites make 2 tangent cylinders around axis, >1pair/site/quark in +100% radius stacks

S0	+- - -	+- - -	+- - -	+- - -			++ +- +-	+-		
S0'							+- +-			
S1										
S1'										
S2	- -	- -	- -	- -						
S2'										
S3										
S3'										

SEq CW Rotation, S Eq. plane & 180° opposites MAY BE ON SURFACE OF SPHERE, NOT C (+ 100% RADIUS CIRCLE) NOR E (+100% MAJOR AXIS ELLIPSE)

7.5°#1	**--E**	**--E**	**--E**	**--E**			**--E**			
67.5°#2	**--E**	**--E**	**--E**	--E			--E			
127.5°#3	**++C**	**++C**	**++C**	**++C**	**++C**	**++C**	**++C**	**++C**	**++C**	**++C**

100% larger radius Shell

A100 These 3 occur, if only 1 per baryon or in expanded baryons, in some, not all, isomers
B100 of charm, bottom, and top quarks, which thus expand. Angle clearances as in ABC above.
C100 Minimum usable clearances are 7.5° at +100% radius

NC = no change from Isoton in this Isomer quark below
↓

Λ^0 SERIES (CONT.) (Neutron Plan Gyre Pair Orbits/Sites.) **Σ^0 SERIES** (Neutron Plan) **Σ^- SERIES** (Ω^-Plan)

LQ/B	Λ^0 (1890)	Λ^0 (2100)	Λ^0 (2110)	Λ^0 (2350)	Σ^0 1192.6	$\Sigma(1385)^0$	Σ^- 1197	$\Sigma(1385)^-$
Type	Grp.5 Isoton	Grp.6 Isoton	Isomer	Grp.7 Isoton	Grp.0 Base	Grp.1 Isoton	Grp.0 Base	Grp.1 Isoton
P'r/Q	**Quark Set**	**Quark Set**	**same**	**Quark Set**	**Quark Set**	**Quark Set**	**Quark Set**	**Quark Set**
Quarks	**d_A s_B u_B**	**d_B s_B u_A**	**d_B s_B u_A**	**d_B s_B u_B**	**d_A s_A u_A**	**d_A s_A u_B**	**d_A d_A s_A**	**d_B d_A s_A**
Part/#	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Orbits								
A	+- +-	- - +-	NC NC	- - +-	+- ++	+- ++	+- +- ++	- - +-++
B	+- +-	++ +-	↓ ↓	++ +-	+- ++	+- ++	+- +- ++	+++-++
C								
A'	++	+-	+-	++	+-	++		
B'	- -			- -	+-	- -		
C'	+- +-	+- +-		+- +-	+- ++	+- ++	+- +- ++	+- +-++
++	+- +- ++	+- +-	++	++	++	++	- -	- -
- -	**- -**	**- -**		**- -**	- -	- -	- -	- -

Octant Centroid Spin Axis Sites & 180° opposites, 0-1-2-3 CW around C pole hemisphere, 'Sites make 2 tangent cylinders around axis, >1pair/site/quark in +100% radius stacks

S0	+- +-	+- +- ++	+- +- +-	+- - -	+- - -	+- +- - -	+- +-- -
S0'	+-	+- +-	+-	- -	- -		
S1'								
S2								
S2'								
S3								
S3'								

SEq CW Rotation, S Eq. plane & 180° opposites MAY BE ON SURFACE OF SPHERE, NOT C (+ 100% RADIUS CIRCLE) NOR E (+100% MAJOR AXIS ELLIPSE)

7.5°#1	**--E**	**--E**	**--E**	**--E**	**--E**	**--E**	**--E**	
67.5°#2	**--E**	**--E**	**--E**	**--E**	**--E**	**--E**	**--E**	**--E**
127.5°#3	**++C**	**++C**	**++C**	**++C**	**++C**	**++C**	**--E**	**--E**

100% larger radius Shell

A100 These 3 occur, if only 1 per baryon or in expanded baryons, in some, not all, isomers
B100 of charm, bottom, and top quarks, which thus expand. Angle clearances as in ABC above.
C100 Minimum usable clearances are 7.5° at +100% radius

NC = no change from Isoton in this Isomer quark below
↓

Σ^+ SERIES (Proton Plan) (Series Gyre Pair Orbits/Sites.)

LQ/B	Σ^+ 1189	$\Sigma(1385)^+$	$\Sigma(1660)^+$	$\Sigma(1670)^+$	$\Sigma(1750)^+$	$\Sigma(1775)^+$	$\Sigma(1915)^+$	$\Sigma(1940)^+$	$\Sigma(2050)^+$	$\Sigma(2250)^+$
Type	Grp.0 Base	Grp.1 Isoton	Grp.2 Isoton	Isomer	Grp.3 Isoton	Isomer	Grp.4 Isoton	Isomer	Isomer	Grp.5 Isoton
P'r/Q	**Quark Set**	**Quark Set**	**Quark Set**	**same**	**Quark Set**	**same**	**Quark Set**	**same**	**same**	**Quark Set**
Quarks	u_A u_A s_A	u_B u_A s_A	u_B u_B s_A	u_B u_B s_A	u_A u_A s_B	u_A u_A s_B	u_B u_A s_B	u_B u_A s_B	u_B u_A s_B	u_B u_B s_B
Part/#	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Orbits										
A	++	++	++	++	+-	NC NC +-	+-	NC NC	NC NC +-	+-
B	++	++	++	++	+-	↓ ↓ +-	+-	↓ ↓	↓ ↓ +-	+-
C	++	++	++	++		+-	- -		- -	+-
A'				++						
B'										
C'		- -	- -	- -	+-	+-	+-	++	+-	++ ++
++	+- +-	++ +-	++ ++	++	+- +-		++ +-			++
- -	+- +- - -	- - +-	- - - - - -	- - - -	+- +- - -	- -	- - +-	- -	+-	- - - - - -

Octant Centroid Spin Axis Sites & 180° opposites, 0-1-2-3 CW around C pole hemisphere, 'Sites make 2 tangent cylinders around axis, >1pair/site/quark in +100% radius stacks

S0	++++ - -	++ ++- -	++ ++- -	++ ++- -	++++++	++	++++++	++	+++++++	+-
S0'	- -	- -			+-	+-	+-		+-	+-
S1										
S1'										
S2					+-		+-			
S2'										
S3	**GRPS. 2, 3, 4, & 5 ARE PDG ACCREDITED ITEMS BUT <u>NOT</u> <u>PDG</u> IDENTIFIED WITH SPECIFIC CHARGE.**									
S3'										

SEq CW Rotation, S Eq. plane & 180° opposites MAY BE ON SURFACE OF SPHERE, NOT C (+ 100% RADIUS CIRCLE) NOR E (+100% MAJOR AXIS ELLIPSE)

7.5°#1	**++E**	**++E**	**++E**	**++E**	**++E**	**++E**	**++E**		**++E**	
67.5°#2	**++E**	**++E**	**++E**	**++E**	**++E**	**++E**				**++E**
127.5°#3	**--C**	**--C**	**--C**	**--C**	**--C**	**--C**	**--C**	**--C**	**--C**	**--C**

100% larger radius Shell

A100 These 3 occur, if only 1 per baryon or in expanded baryons, in some, not all, isomers
B100 of charm, bottom, and top quarks, which thus expand. Angle clearances as in ABC above.
C100 Minimum usable clearances are 7.5° at +100% radius

NC = no change from Isoton in this Isomer quark below
↓

Ξ^0 SERIES (Neutron Plan Series Gyre Pair Orbits/Sites.) **Ξ^- SERIES** (Ω^- Plan)

LQ/B	Ξ^0 1314.83	$\Xi(1530)^0$	$\Xi(1690)^0$	$\Xi(1820)^0$	$\Xi(1950)^0$	$\Xi(2030)^0$	Ξ^- 1321.31	$\Xi(1530)^-$
Type	Grp.0 Base	Grp.1 Isoton	Grp.2 Isoton	Grp.3 Isoton	Grp.4 Isoton	Grp5 Isoton	Grp.0 Base	Grp.1 Isoton
P'r/Q	**Quark Set**	**Quark Set**	**Quark Set**	**Quark Set**	**Quark Set**	**Quark Set**	**Quark Set**	**Quark Set**
Quarks	s_A s_A u_A	s_A s_A u_B	s_B s_A u_A	s_B s_A u_B	s_B s_B u_A	s_B s_B u_B	d_A s_A s_A	d_B s_A s_A
Part/#	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Orbits								
A	++ ++	++ ++	+- ++	+- ++	+- +-	+- +-	+- ++++++	++++
B	++ ++	++ ++	+- ++	+- ++	+- +-	+- +-	+- ++++ - -	++++
C								
A'								
B'								
C'	- - - -	- - - -	+- - -	+- - -	+- +-	+- +-	+- ++++	+- ++++
++	+-	++	+-	++	+-	++	- - - -	- - - -
- -	- - - - +- - -	- - - - - - - - +-	- - - - - -	- - - - +-	- - - - - -		- - - -	- - - -

Octant Centroid Spin Axis Sites & 180° opposites, 0-1-2-3 CW around C pole hemisphere, 'Sites make 2 tangent cylinders around axis, >1pair/site/quark in +100% radius stacks

S0	- - - - ++ - -	- - +++++- -++	++- -++	++++++ ++++++	+- - - - -	+- - - - -
S0'	++++	++++	+- ++	+- ++	+- +-	+- +-		
S1								
S1'								
S2		+-	+-	+- +-	+- +-			
S2'								
S3	**GRPS. 2, 3, 4, & 5 ARE PDG ACCREDITED ITEMS BUT <u>NOT</u> <u>PDG</u> IDENTIFIED WITH SPECIFIC CHARGE.**							
S3'								

SEq CW Rotation, S Eq. plane & 180° opposites MAY BE ON SURFACE OF SPHERE, NOT C (+ 100% RADIUS CIRCLE) NOR E (+100% MAJOR AXIS ELLIPSE)

7.5°#1	**--E**	**--E**	**--E**	**--E**	**--E**	**--E**	**--E**	**--E**
67.5°#2	**--E**	**--E**	**--E**	**--E**	**--E**	**--E**	**--E**	**--E**
127.5°#3	**++C**	**++C**	**++C**	**++C**	**++C**	**++C**	**--E**	**--E**

100% larger radius Shell

A100 These 3 occur, if only 1 per baryon or in expanded baryons, in some, not all, isomers
B100 of charm, bottom, and top quarks, which thus expand. Angle clearances as in ABC above.
C100 Minimum usable clearances are 7.5° at +100% radius

Λ_c^+ & Σ_c^+ COMBINED SERIES (Proton Plan Series Gyre Pair Orbits/Sites.)

LQ/B	Λ_c^+ 2286.46	$\Sigma_c(2455)^+$	$\Sigma_c(2520)^+$	$\Lambda_c(2590)^+$	$\Lambda_c(2625)^+$		$\Sigma_c(2800)^+$	
Type	Grp.0 Base	Grp.1 Isoton	Grp.2 Isoton	Grp.3 Isoton	Grp.4 Isoton	Grp.5	Grp.6 Isoton	Grp.7
P'r/Q	**Quark Set**	**Quark Set**	**Quark Set**	**Quark Set**	**Quark Set**	none	**Quark Set**	none
Quarks	**u_A c_A d_A**	**u_B c_A d_A**	**u_A c_A d_B**	**u_B c_A d_B**	**u_A c_B d_A**	u_B c_B d_A	**u_A c_B d_B**	u_B c_B d_B
Part/#	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Orbits								
A	+-	+-	- -	- -	+-		- -	
B	+-	+-	++	++	+-		++	
C						**NO ACCREDITED**		
A'					++		++	
B'						**ITEMS, GRPS 5&7**		
C'	+-	+-	+-	+-	+-		+-	
++	+- ++	++ ++	+- ++	++ ++	+- ++		+- ++	
- -	+- - -	- - - -	+- - -	- - - -	+- - - +-		+- - -	

Octant Centroid Spin Axis Sites & 180° opposites, 0-1-2-3 CW around C pole hemisphere, 'Sites make 2 tangent cylinders around axis, >1pair/site/quark in +100% radius stacks

S0	++ ++ +-	++ +++-	++ +++-	++ +++-	++++		++++ +-	
S0'	+-	+-	+-	+-	- -		- -	
S1	++	++	++	++	+-		+-	
S1'	- -	- -	- -	- -	+-		+-	
S2	++	++	++	++	+-		+-	
S2'	- -	- -	- -	- -	+-		+-	
S3	++	++	++	++	+-		+-	
S3'	- -	- -	- -	- -	+-		+-	

SEq CW Rotation, S Eq. plane & 180° opposites MAY BE ON SURFACE OF SPHERE, NOT C (+ 100% RADIUS CIRCLE) NOR E (+100% MAJOR AXIS ELLIPSE)

7.5°#1	**++E**	**++E**	**++E**	**++E**	**++E**		**++E**	
67.5°#2	**++E**	**++E**	**++E**	**++E**	**++E**		**++E**	
127.5°#3	**--C**	**--C**	**--C**	**--C**	**--C**		**--C**	

100% larger radius Shell

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Σ_c^{++} SERIES (Ω^- Plan Gyre Pair Orbits/Sites.)

LQ/B	$\Sigma_c(2455)^{++}$.	$\Sigma_c(2520)^{++}$		$\Sigma_c(2800)^{++}$
Type	Grp.0 Base	Grp.1 Isoton	Grps. 2, 3, 4	Grp.5 Isoton
P'r/Q	**Quark Set**	**Quark Set**	none	**Quark Set**
Quarks	$\mathbf{u_A}$ $\mathbf{u_A}$ $\mathbf{c_A}$	$\mathbf{u_B}$ $\mathbf{u_A}$ $\mathbf{c_A}$	u u c	$\mathbf{u_B}$ $\mathbf{u_B}$ $\mathbf{c_B}$
Part/#	1 2 3	1 2 3	1 2 3	1 2 3
Orbits				
A	++	++		+-
B	++	++		+-
C	++	++	**NONE**	+-
A'	- -	- -		+-
B'	- -	- -	**ACCRDTD**	+-
C'	- -	- -		+-
++	+-+- ++	+++- ++		++++++
- -	+-+- - -	- - +- - -		- - - - - -

Σ_c^0 SERIES (Neutron Plan Gyre Pair Orbits/Sites.)

LQ/B	$\Sigma_c(2455)^0$	$\Sigma_c(2520)^0$		$\Sigma_c(2800)^0$
Type	Grp.0 Base	Grp.1 Isoton	Grps. 2, 3, 4	Grp.5 Isoton
P'r/Q	**Quark Set**	**Quark Set**	none	**Quark Set**
Quarks	$\mathbf{d_A}$ $\mathbf{d_A}$ $\mathbf{c_A}$	$\mathbf{d_B}$ $\mathbf{d_A}$ $\mathbf{c_A}$	d d c	$\mathbf{d_B}$ $\mathbf{d_B}$ $\mathbf{c_B}$
Part/#	1 2 3	1 2 3	1 2 3	1 2 3
Orbits				
A	+- +-	- - +-		- - - -
B	+- +-	+++-		++++
C			**NO ITEMS**	
A'				++
B'			**ACCREDITTED**	
C'	+- +-	+- +-		+- +-
++	++	++		++
- -	- -	- -		- -

Octant Centroid Spin Axis Sites & 180° opposites, 0-1-2-3 CW around C pole hemisphere, 'Sites make 2 tangent cylinders around axis, >1pair/site/quark in +100% radius stacks

S0	+++++	++	+++++	++			++++++		+-	+-	++	+-	+-	++		+-	+- ++
S0'		+-		+-				- -			+-			+-			- -
S1											++			++			+-
S1'											- -			- -			+-
S2								++			++			++			+-
S2'											- -			- -			+-
S3											++			++			+-
S3'											- -			- -			+-

SEq CW Rotation, S Eq. plane & 180° opposites MAY BE ON SURFACE OF SPHERE, NOT C (+ 100% RADIUS CIRCLE) NOR E (+100% MAJOR AXIS ELLIPSE)

7.5°# 1	**++E**			**++E**			**++E**			**--E**			**--E**			**--E**	
67.5°# 2		**++E**			**++E**			**++E**			**--E**			**--E**			**--E**
127.5°# 3			**++C**			**++C**			**++C**			**++C**			**++C**			**++C**

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Ξ_c^+ SERIES (Proton Plan, ++-. Sequence) **Ξ_c^0 SERIES** (Neutron Plan, --+ Sequence)

LQ/B	Ξ_c^+ 2467.9	Ξ'^+_c 2575.7	$\Xi_c(2645)^+$	$\Xi_c(2790)^+$	$\Xi_c(2815)^+$	Ξ_c^0 2471.0	Ξ'^0_c 2578.0	$\Xi_c(2645)^0$	$\Xi_c(2790)^0$	$\Xi_c(2815)^0$
Type	Grp.0 Base	Grp.1 Isoton	Grp.2 Isoton	Grp.4 Isoton	Grp.5 Isoton	Grp.0 Base	Grp.1 Isoton	Grp.2 Isoton	Grp.4 Isoton	Grp.5 Isoton
P'r/Q	**Quark Set**	**Quark Set**	**Quark Set**	**Quark Set**	**Quark Set**	**Quark Set**	**Quark Set**	**Quark Set**	**Quark Set**	**Quark Set**
Quarks	u_A c_A s_A	u_B c_A s_A	u_A c_A s_B	u_A c_B s_A	u_B c_B s_A	d_A s_A c_A	d_B s_A c_A	d_A s_B c_A	d_A s_A c_B	d_B s_A c_B
Part/#	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
Orbits										
A	++	++	+-	++	++	+- ++	- - ++	+- +-	+- ++	- - ++
B	++	++	+-	++	++	+- ++	++++	+- +-	+- ++	++++
C										
A'				++	++				++	++
B'										
C'	- -	- -	- -	- -	- -	+- - -	+- - -	+- +-	+- - -	+- - -
++	**+- ++**	**+++-**	+- +- ++	+- ++	++++	++	++	++	++	++
- -	+- - - - -	- - - - - -	+- - - - -	+- - - - -	- - - - - -	- - - -	- - - -	- - - -	- - - -	- - --

Octant Centroid Spin Axis Sites & 180° opposites, 0-1-2-3 CW around C pole hemisphere, 'Sites make 2 tangent cylinders around axis, >1pair/site/quark in +100% radius stacks

S0	++++- -	++++- -	+++++-	++++- -	++++- -	+- - -	++ +- - -	++ +-	++++ +- - -	++ +- --++
S0'	+- ++	+- ++	+- +-	- - ++	- - ++	++ +-	++ +-	+- +-	++ - -	++--
S1	++	++	++	+-	+-	++	++	+- ++	+-	+-
S1'	- -	- -	- -	+-	+-	- -	- -	- -	+-	+-
S2	++	++	++	+-	+-	++	++	++	+-	+-
S2'	- -	- -	- -	+-	+-	- -	- -	- -	+-	+-
S3	++	++	++	+-	+-	++	++	++	+-	+-
S3'	- -	- -	- -	+-	+-	- -	- -	- -	+-	+-

SEq CW Rotation, S Eq. plane & 180° opposites MAY BE ON SURFACE OF SPHERE, NOT C (+ 100% RADIUS CIRCLE) NOR E (+100% MAJOR AXIS ELLIPSE)

7.5°# 1	**++E**	**++E**	**++E**	**++E**	**++E**	**--E**	**--E**	**--E**	**--E**	**--E**
67.5°# 2	**++E**	**++E**	**++E**	**++E**	**++E**	**--E**	**--E**	**--E**	**--E**	**--E**
127.5°# 3	**--C**	**--C**	**--C**	**--C**	**--C**	**++C**	**++C**	**++C**	**++C**	**++C**

No PDG accredited items for Groups 3, u_B c_A s_B and d_B s_B c_A
6, u_A c_B s_B and d_A s_B c_B
7 u_B c_B s_B and d_B s_B c_B to make complete Series.

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	Ω_c^0 **SERIES** (n Plan Gyre Pair Orbits/Sites.)	Λ_b^0 **SERIES** (Paradigm n Plan Gyre Pair Orbits/Sites, --+ Quark # Sequence)
LQ/B	Ω_c^0 2697.5	N (1440)
Type	Grp.0 Base	Grp.0 Base
P'r/Q	**Quark Set**	**Quark Set**
Quarks	**s_A s_A c_A**	**d_A b_A u_B**
Part/#	1 2 3	1 2 3
Orbits		
A	++ ++	+- - -
B	++ ++	- -
C	(Incomplete series,	++ (Incomplete bottom quark series,
A'	End strange/charm series.)	+ - End PDG Accredited Baryon Series.)
B'		+ - + -
C'	- - - -	- -
++	++	+ -
- -	- - - - - -	- -

Octant Centroid Spin Axis Sites & 180° opposites, 0-1-2-3 CW around C pole hemisphere, 'Sites make 2 tangent cylinders around axis, >1pair/site/quark in +100% radius stacks

S0	- - - - ++	++
S0'	++ ++ +-	+ -
S1	++	++
S1'	- -	+ -
S2	++	++
S2'	- -	+ -
S3	++	++
S3'	- -	+ -

SEq CW Rotation, S Eq. plane & 180° opposites MAY BE ON SURFACE OF SPHERE, NOT C (+ 100% RADIUS CIRCLE) NOR E (+100% MAJOR AXIS ELLIPSE)

7.5°#1	**- -E**	**- -E**
67.5°#2	**- -E**	**- -E**
127.5°#3	**++C**	**++C**

100% larger radius Shell

A100 These 3 occur, if only 1 per baryon or in expanded baryons, in some, not all, accessible isomers
B100 of charm, bottom, and top quarks, which thus expand. Angle clearances as in ABC above.
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