ROSS MODEL
STABLE ISOTOPE CHART
Atomic Nuclei Made from Alpha Particles, Electrons, Protons and Entrons

(09/10`/2015)

Number Of Alpha Particles (mass-amu)	Atomic Nuclei	Number of Electrons (Spin 0)*	Number of Protons	Number of Extra Electrons	Spin	Charge	Estimated Gamma Ray Energy-Mass (MeV-amu) (MeV)	Isotope Mass (amu)
	e^-	0	0	1	1	-1	0	0.000549
0	n**	0	1	1	½+	0	9.423-0.0101165	1.00794
	H-1	0	1	0	½+	1	9.152-0.009825	1.007825
	H-2	0	2	1	1+	1	16.77-0.018	2.014
	H-3**	0	3	2	½	1	19.51-0.02095	3.01495
	He-3	0	3	1	½+	2	20.01-0.02148	3.01603
1	He-4	0	0	0	0+	2	7.44-0.008	4.003
(3.995)	Li-6	0	2	1	1+	3	22.36	6.015
	Li-7	0	3	2	3/2-	3	25.15	7.016
2	Be-8**	0	0	0	0+	4	13.97-0.015	8.005
(7.990)	Be-9	0	1	1	3/2-	4	22.36	9.012
	B-10	0	2	1	3+	5	25.15	10.013
	B-11	0	3	2	3/2-	5	21.41	11.009
3	C-12	0	0	0	0+	6	13.04-0.014	12.000
(11.986)	C-13	0	1	1	½-	6	17.70	13.003
	N14	0	2	1	1+	7	19.56	14.003
	N15	0	3	2	½-	7	18.63	15.000
4	O-16	0	0	0	0+	8	12.10-0.013	15.995
(15.982)	O-17	0	1	1	5/2+	8	17.70	16.999
	O-18	0	2	2	0+	8	19.56	17.999
	F-19*	0	3	2	½+	9	20.49	18.998
5	Ne-20	0	0	0	0+	10	13.97-0.015	19.992
(19.977)	Ne-21	0	1	1	3/2+	10	17.70	20.994
	Ne-22	0	2	2	0+	10	16.77	21.991
	Na-23*	0	3	2	3/2+	11	17.70	22.990
6	Mg-24	0	0	0	0+	12	12.11-0.012	23.985
(23.972)	Mg-25	0	1	1	5/2+	12	14.90	24.986
	Mg-26	0	2	2	0+	12	13.97	25.983
	Al-27*	0	3	2	5/2+	13	14.90	26.982
7	Si-28	0	0	0	0+	14	15.84-0.017	27.977
(27.960)	Si-29	0	1	1	½+	14	16.77	28.976
	Si-30	0	2	2	0+	14	16.77	29.974
	P-31*	0	3	2	½+	15	18.63	30.974
8	S-32	0	0	0	0+	16	8.38-0.009	31.972

(931.963)	S-33	0	1	1	3/2+	16	9.31	32.971
	S-34	0	2	2	0+	16	8.38	33.968
	Cl-35	0	3	2	3/2+	17	11.18	34.969
9	Cl-36	0	0	0	0+	17	9.31-0.010	35.968
(35.958)	S-36	2	0	0	0+	18	8.38	35.967
	Cl-37	2	1	0	3/2+	17	9.31	36.966
	Ar-36	0	0	0	0+	18	9.31	35.968
	Ar-38	0	2	2	0+	18	8.38	37.963
	K-39	0	3	2	3/2+	19	11.18	38.964
10	Ar-40	2	0	0	0+	18	8.38	39.962
(39.953)	Ca-40	0	0	0	0+	20	9.31-0.010	39.963
	Ca-42	0	2	2	0+	20	9.31	41.959
	Ca-43	2	3	1	7/2-	20	11.18	42.959
	K-40	0	0	1	4-	19	10.25	39.964
	K-41	2	1	0	3/2+	19	12.11	40.962
11	Ca-44	2	0	0	0+	20	5.59-0.005	43.955
(43.949)	Ca-46	2	2	2	0+	20	8.38	45.954
	Sc-45*	2	1	0	7/2-	21	8.38	44.956
	Ti-46	2	2	0	0+	22	8.38	45.953
	Ti-47	2	3	1	5/2-	22	8.38	46.952
12	Ca-48	4	0	0	0+	20	7.45-0.006	47.953
(47.945)	Ti-48	2	0	0	0+	22	2.79	47.948
	Ti-49	2	1	1	7/2-	22	4.66	48.948
	Ti-50	2	2	2	0+	22	3.73	49.945
	V-51	2	3	1	7/2-	23	2.79	50.944
	Cr-50	2	2	0	0+	24	4.66	49.946
13	Cr-52	2	0	0	0+	24	1.86-0.001	51.941
(51.939)	Fe-54	2	2	0	0+	26	4.66	53.940
	Cr-53	2	1	1	3/2-	24	3.73	52.941
	Cr-54	2	2	2	0+	24	3.73	53.939
	Mn-55*	2	3	2	5/2-	25	4.66	54.938
14	Fe-56	2	0	0	0+	26	0.00	55.935
(55.935)	Fe-57	2	1	1	1/2-	26	1.74	56.935
	Fe-58	2	2	2	0+	26	1.86	57.933
	Ni-58	2	2	0	0+	28	1.86	57.935
	Co-59*	2	3	2	7/2-	27	3.73	58.933
15	Ni-60	2	0	0	0+	28	0.00	59.931
(59.931)	Ni-61	2	1	1	3/2-	28	1.86	60.931
	Ni-62	2	2	2	0+	28	0.93	61.928
	Cu-63	2	3	2	3/2-	29	4.65	62.930
16	Ni-64	4	0	0	0+	28	1.86-0.001	63.928
(63.926)	Zn-64	2	0	0	0+	30	2.79	63.929
	Zn-66	2	2	2	0+	30	3.73	65.926
	Zn-67	4	3	1	5/2-	30	6.52	66.927
	Cu-65	4	1	0	3/2-	29	3.73	64.928
17	Zn-68	4	0	0	0+	30	3.73-0.004	67.925
(67.921)	Zn-70	2	2	2	0+	30	7.45	69.925

	Ga-69	4	1	0	3/2-	31	5.59	68.925
	Ga-71	4	3	2	3/2-	31	9.31	70.925
	Ge-70	2	2	2	0+	32	6.52	69.924
18	Ge-72	4	0	0	0+	32	4.66-0.005	71.922
(71.917)	Ge-73	4	1	1	9/2+	32	4.45	72.923
	Ge-74	2	2	2	0+	34	7.45	73.921
	As-75	4	3	2	3/2-	33	10.25	74.922
	Se-74	2	2	2	0+	34	8.38	73.922
19	Ge-76	6	0	0	0+	32	8.38-0.009	75.921
(75.912)	Se-76	4	0	0	0+	34	6.52	75.919
	Se-77	4	1	1	½-	34	9.31	76.920
	Se-78	4	2	2	0+	34	8.38	77.917
	Br-79	4	3	2	3/2-	35	12.11	78.918
	Kr-78	2	2	2	0+	36	11.18	77.920
20	Se-80	6	0	0	0+	34	8.38-0.009	79.917
(79.908)	Se-82	6	2	2	0+	34	8.38	81.913
	Br-81	6	1	0	3/2-	35	9.31	80.916
	Kr-80	4	0	0	0+	36	7.45	79.916
	Kr-82	4	2	2	0+	36	8.38	81.913
	Kr-83	6	3	1	9/2+	36	11.18	82.914
21	Kr-84	6	0	0	0+	36	8.38-0.009	83.912
(83.903)	Kr-86	6	2	2	0+	36	11.18	85.911
	Rb-85	6	1	0	5/2-	37	10.25	84.912
	Rb-87	6	3	2	3/2-	37	11.18	86.909
	Sr-84	4	0	0	0+	38	9.31	83.913
	Sr-86	2	2	2	0+	38	9.31	85.909
	Sr-87	6	3	1	9/2+	38	11.18	86.909
22	Sr-88	6	0	0	0+	38	7.45-0.008	87.906
(87.898)	Y-89*	6	1	0	½-	39	9.31	88.906
	Zr-90	4	2	2	0+	40	9.31	89.905
	Zr-91	6	3	1	5/2+	40	13.01	90.906
23	Zr-92	6	0	0	0+	40	10.25-0.011	91.905
(91.894)	Zr-94	4	2	2	0+	40	14.91	93.906
	Nb-93*	4	1	1	9/2+	41	13.04	92.906
	Mo-92	4	0	0	0+	42	12.11	91.907
	Mo-94	4	2	2	0+	42	13.79	93.905
	Mo-95	6	3	1	5/2+	42	13.04	94.906
24	Zr-96	8	0	0	0+	40	17.70-0.019	95.908
(95.889)	Mo-96	6	0	0	0+	42	14.90	95.905
	Mo-97	6	1	1	5/2+	42	17.70	96.906
	Mo-98	6	2	2	0+	42	18.63	97.905
	Tc-97	6	1	0	$9/2_+$	43	17.70	96.906
	Tc-98	6	2	1	6+	43	20.49	97.907
	Tc-99	6	3	2	9/2+	43	20.49	98.906
	Ru-96	6	0	0	0+	44	21.42	94.907
	Ru-98	6	2	0	0+	44	18.62	97.905
25	Mo-100	8	0	0	0+	42	21.42-0.023	99.907

(99.884)	Ru-100	6	0	0	0+	42	18.62	99.904
	Ru-101	6	1	1	5/2+	44	21.42	100.905
	Ru-102	6	2	2	0+	44	22.36	101.904
	Rh-103*	6	3	2	½-	45	26.08	102.906
	Pd-102	6	2	0	0+	46	24.22	101.906
26	Ru-104	8	0	0	0+	44	23.29-0.025	103.905
(103.880)	Pd-104	6	0	0	0+	46	22.35	103.904
	Pd-105	6	1	1	5/2+	46	25.15	104.905
	Pd-106	6	2	2	0+	46	25.15	107.904
	Ag-107	6	3	2	½-	47	28.88	106.905
	Cd-106	6	2	2	0+	48	27.94	105.906
27	Pd-108	8	0	0	0+	46	27.01-0.029	107.904
(107.875)	Pd-110	8	2	2	0+	46	31.67	109.905
	Ag-109	8	1	0	½-	47	29.81	108.905
	Cd-108	6	0	0	0+	48	27.01	107.904
	Cd-110	8	2	0	0+	48	29.80	109.903
	Cd-111	8	3	1	½+	48	32.60	110.904
28	Cd-112	8	0	0	0+	48	30.74-0.033	111.903
111.870)	Cd-113	8	1	1	½+	48	33.53	112.904
	Cd-114	8	2	2	0+	48	34.46	113.903
	In-113	8	1	0	9/2+	49	33.53	112.904
	In-115	8	3	2	9/2+	49	37.26	111.904
	Sn-112	6	0	0	0+	50	32.59	111.905
	Sn-114	6	2	2	0+	50	34.46	113.903
	Sn-115	6	3	2	½+	50	36.37	114.903
29	Cd-116	10	0	0	0+	48	37.26-0.040	115.905
(115.865)	Sn-116	8	0	0	0+	50	34.47	115.902
	Sn-117	8	1	1	½+	50	37.25	116.903
	Sn-118	8	2	2	0+	50	38.19	117.902
	Sn-119	8	3	2	½+	50	40.99	118.903
30	Sn-120	10	0	0	0+	50	38.19-0.041	119.902
(119.861)	Sn-122	10	2	2	0+	50	42.85	121.903
	Sb-121	10	1	0	5/2+	51	41.92	120.904
	Sb-123	10	3	2	7/2+	51	45.64	122.904
	Te-120	8	0	0	0+	52	37.26	119.904
	Te-122	10	2	0	0+	52	43.78	121.903
	Te-123	10	3	1	½+	52	45.64	122.904
31	Te-124	12	0	0	0+	52	42.45-0.045	123.903
(123.857)	Te-125	10	1	1	½+	52	45.46	124.904
	Te-126	10	2	2	0+	52	46.57	125.903
	Sn-124	10	2	2	0+	50	44.71	123.905
	I-127	10	3	2	5/2+	53	49.37	126.904
	Xe-124	8	0	0		54	45.64	123.906
	Xe-126	8	2	2	0+	54	47.51	125.904
32	Te-128	12	0	0	0+	52	48.43-0.052	127.904
(127.852)	Te-130	12	2	2	0+	52	54.03	129.906

	Xe-128	10	0	0	0+	54	48.43	127.904
	Xe-129	10	1	1	½+	54	51.23	128.905
	Xe-130	10	2	2	0+	54	52.16	129.904
	Xe-131	12	3	1	3/2+	54	54.96	130.905
	Ba-130	10	3	1	0+	56	54.03	129.906
33	Xe-132	12	0	0	0+	54	53.10-0.057	131.904
(131.847)	Xe-134	12	2	2	0+	54	57.75	133.905
	Cs-133*	12	1	0	7/2+	55	55.89	132.905
	Ba-132	10	0	0	0+	56	54.03	131.905
	Ba-134	10	2	2	0+	56	58.68	133.906
	Ba-135	12	3	1	3/2+	56	60.54	134.906
34	Xe-136	14	0	0	0+	54	59.62-0.064	135.907
(135.843)	Ba-136	12	0	0	0+	56	56.82	135.904
	Ba-137	12	1	1	3/2+	56	60.55	136.906
	Ba-138	12	2	2	0+	56	61.48	137.905
	La-138	12	2	1	5+	57	63.34	137.907
	La-139	12	3	2	7/2+	57	64.27	138.906
	Ce-136	10	0	0	0+	58	59.62	135.907
	Ce-138	10	2	2	0+	58	62.41	137.906
35	Ce-140	12	0	0	0+	58	62.41-0.067	139.905
(139.838)	Ce-142	12	2	2	0+	58	69.86	141.909
	Pr-141*	12	1	0	5/2+	59	67.06	140.908
	Nd-142	12	2	0	0+	60	68.93	141.908
	Nd-143	12	3	1	7/2-	60	72.66	142.910
36	Nd-144	12	0	0	0+	60	70.79-0.076	143.910
(143.834)	Nd-145	12	1	1	7/2-	60	75.45	144.913
	Sm-144	10	0	0	0+	62	72.66	140.912
	Sm-147	12	3	1	7/2-	62	81.04	146.915
	Nd-146	12	2	2	0+	60	72.31	145.913
37	Nd-148	14	0	0	0+	60	81.97-0.088	147.917
(147.829)	Nd-150	14	2	2	0+	60	89.42	149.921
	Eu-151	12	3	2	5/2+	60	90.35	150.920
	Sm-148	12	0	0	0+	62	80.11	147.915
	Sm-149	12	1	1	7/2-	62	83.83	148.917
	Sm-150	12	2	2	0+	62	85.70	149.917
	Pm No Stable Isotopes					61		
38	Sm-152	14	0	0	0+	62	89.42-0.096	151.920
(151.824)	Sm-154	14	2	2	0+	62	99.01	153.922
	Eu-153	14	1	0	5/2+	63	92.22	152.921
	Gd-152	12	0	0	0+	64	89.42	151.920
	Gd-154	12	2	2	0+	64	94.08	153.921
	Gd-155	14	3	1	3/2-	64	96.88	154.922
39	Gd-156	14	0	0	0+	64	95.01-0.012	155.922
(155.820)	Gd-157	14	1	1	3/2-	64	98.74	156.924
	Gd-158	14	2	2	0+	64	100.60	157.924
	Tb-159*	14	3	2	3/2+	65	103.40	158.925
	Dy-156	12	0	0	0+	66	96.88	155.924

	Dy-158	12	2	2	0+	66	100.60	156.924
40	Gd-160	16	0	0	0+	64	104.33-0.112	159.927
(159.815)	Dy-160	14	0	0	0+	66	102.46	159.925
	Dy-161	14	1	1	5/2+	66	106.19	160.927
	Dy-162	14	2	2	0+	66	108.05	161.927
	Dy-163	16	3	1	5/2-	66	111.77	162.929
	Er-162	12	2	2	0+	68	109.92	161.929
	Dy-164	16	0	0	0+	66	110.85-0.119	163.929
41	Er-164	14	0	0	0+	68	110.85	163.929
(163.810)	Ho-165*	14	3	2	7/2-	67	113.64	164.930
	Er-166	14	2	2	0+	68	115.51	165.930
	Er-167	16	3	1	7/2-	68	119.23	166.932
42								
(167.806)	Er-168	16	0	0	0+	68	117.37-0.126	167.932
	Er-170	16	2	2	0+	68	123.89	169.935
	Tm-169*	16	1	0	½+	69	121.09	168.934
	Yb-168	14	0	0	0+	70	119.23	167.934
	Yb-170	14	2	2	0+	70	123.89	169.935
	Yb-171	16	3	1	½-	70	126.68	170.936
43	Yb-172	16	0	0	0+	70	125.75-0.135	171.936
(171.801)	Yb-173	16	1	1	5/2-	70	129.48	172.938
	Yb-174	16	2	2	0+	70	131.34	173.938
	Lu-175	16	3	2	7/2+	71	136.00	174.941
	Hf-174	14	2	2	0+	72	133.20	173.940
44	Yb-176	18	0	0	0+	70	136.00-0.146	175.943
(175.797)	Lu-176	16	0	0	0+	71	135.07	175.942
	Hf-176	16	0	0	0+	72	134.14	175.941
	Hf-177	17	1	1	7/2+	72	137.86	176.943
	Hf-178	16	2	2	0+	72	140.66	177.944
	Hf-179	18	3	2	9/2+	72	144.38	178.946
45	Hf-180	18	0	0	0+	72	144.38-0.155	179.947
(179.792)	Ta-180	16	0	1	9-	73	144.38	179,947
	Ta-181	18	1	0	7/2+	73	147.18	180.948
	W-180	16	0	0	0+	74	144.38	179.947
	W-182	16	2	2	0+	74	149.04	181.948
	W-183	18	3	1	½-	74	154.62	182.950
46	W-184	18	0	0	0+	74	152.77-0.164	183.951
(183.787)	W-186	18	2	2	0+	74	159.29	185.954
	Re-185	18	1	0	5/2+	75	156.49	184.953
	Re-187	18	3	2	5/2+	75	163.01	186.956
	Os-184	16	0	0	0+	76	153.70	183.952
	Os-186	16	2	2	0+	76	161.15	185.954
	Os-187	18	3	1	½-	76	163.01	186.956
47	Os-188	18	0	0	0+	76	161.15-0.173	187.956
(187.783)	Os-189	18	1	1	3/2+	76	164.87	188.958
	Os-190	18	2	2	0+	76	166.74	189.958
	Ir-191	18	3	2	3/2+	77	168.60	190.961

	Pt-190	16	2	2	0+	78	168.60	189.960
48	Os-192	20	0	0	0+	76	170.46-0.183	191.961
(191.778)	Ir-193	18	1	1	3/2+	77	174.19	192.063
	Pt-192	18	0	0	0+	78	170.46	191.961
	Pt-194	18	2	2	0+	78	176.05	193.963
	Pt-195	20	3	1	½-	78	179.78	194.965
49	Pt-196	20	0	0	0+	78	178.85-0.192	195.965
(195.773)	Pt-198	20	2	2	0+	78	185.37	197.968
	Au-197	18	1	1	3/2+	79	182.57	196.967
	Hg-196	18	0	0	0+	80	179.78	195.966
	Hg-198	18	2	2	0+	80	184.44	197.967
	Hg-199	20	3	1	1/2-	80	187.23	198.968
50	Hg-200	20	0	0	0+	80	185.37-0.193	199.968
(199.769)	Hg-201	0	1	1	3/2-	80	189.09	200.970
	Hg-202	20	2	2	0+	80	191.89	201.971
	Ti-203	20	3	2	½+	81	194.68	202.972
51	Hg-204	22	0	0	0+	80	194.68-0.209	203.973
(203.764)	Ti-205	22	1	0	½+	81	197.48	204.974
	Pb-204	20	0	0	0+	82	194.68	203.973
	Pb-206	20	2	2	0+	82	199.34	205.974
	Pb-207	20	3	2	½-	82	203.07	206.976
52	Pb-208	22	0	0	0+	82	203.13-0.218	207.977
(207.760)	Bi-209*	22	1	0	9/2-	83	216.11	208.980
53	Po-212**	22	0	0	0	84		
54	Po-216**	24	0	0	0	84	(All radioactive)	
55	Rn-220**	24	0	0	0	86	(All alpha emitters)	
56	Ra-224**	24	0	0	0	88	(All descendents of U-236)	
57	Th-228**	24	0	0	0	90	(Pb-208 T½ = $2X10^{19}$ y SF)	
58	Th-232*	26	0	0	0+	90	285.04-0.205	232.038
(231.732)	U-233	24	1	1	5/2+	92	288.76	233.040
	Pa	No Stable Isotopes				91		
	U-234	24	2	2	0+	92	291.55	234.041
	U-235	26	3	1	7/2-	92	293.42	235.044
59	U-236**	26	0	0	0+	92	297.15-0.319	236.046
(235.727)	U-238	26	2	2	0+	92	305.53	238.051
	Np	No Stable Isotopes						
	Pu-239**	26	3	1	½	94	308.32	239.052
60	Pu-240**	26	0	0	0+	94	307.39-0.330	240.053
(239.723)								
61	Pu-244**	28	0	0	0+	94	326.02-0.350	244.064
(243.718)								

Notes:

An * Indicates abundance of 100%
A ** Indicates unstable isotope

- Naked proton mass: One proton: 0.998 amu
  Two protons: 1.996 amu
  Three protons: 2.994 amu
- Zero velocity proton mass: One proton: 1.007 amu
  (Naked protons capture gamma ray entrons to slow down) Two protons: 2.015 amu
  Three protons; 3.022 amu
- Zero velocity alpha mass: One alpha: 4.003 amu
- Naked alpha mass One alpha 3.9953833 amu
  (Assume Fe-56 nucleus is comprised of 14 alphas)
- Electron – positron mass: 0.00054858 amu
- amu = 931.4941 MeV:
- Mass of gamma ray entrons (amu) : gamma ray energy (MeV) (931.4941 MeV/amu)

Col. 1: Number of alpha particles in nuclei (mass in amu)
Col. 2: Atomic nuclei
Col. 3: Number of spin zero electrons in nuclei
Col. 4: Number of protons in nuclei
Col. 5: Number of additional electrons in nuclei
Col. 6: Nuclear spin of isotope
Col. 7: Charge of nucleus
Col. 8: Estimated gamma ray energy in MeV – To get mass, divide by 931.4941 MeV/amu
Col. 9: Isotope mass

Approximate gamma ray mass = (isotope mass) minus (alpha particle mass + proton mass)
Approximate gamma ray energy = (gamma ray mass in amu) X (931.4941 Mev/amu)

STABLE ISOTOPE CHART CONCLUSIONS

1. There are no neutrons in stable nuclei. Neutrons have a half-life of 10.23 minutes.
2. Be-8 is comprised of two alpha particles and is unstable with a half-life = 7 X 10^{-17} s. Decay products are two alpha particles
3. Isotopes of C-12, O-16, Ne-20, Mg-24, Si-28, S-32 and K-40 are each comprised of only alpha particles and gamma ray entrons. Gamma ray entrons add to the mass of the isotope. All have zero spin..
4. Sixty-one stable or long-lived isotopes are comprised of only alpha particles, electrons and gamma ray entrons. All have zero spin, like the alpha particle.

5. Gamma ray entron energy increases from 7.44 MeV for He-4 to 20.49 MeV for F-19 then decreases to approximately zero for Fe-56 and Ni-60 then increases to about 326 MeV for Pu-244.

6. Only two stable nuclei have integer spin: K-40 and Ta-180, each comprising a single electron and no protons.

7. In cases where an isotope, comprised of a number of alpha particles and 3 protons and two extra electrons, absorbs a neutron the resulting isotope is unstable and decays with a beta particle (an electron) and result is a stable isotope with one additional alpha particle (for example, B-11 to C-12). There are at least 22 additional examples of this process.

8. In cases where an isotope, comprised a number of alpha particles, 3 protons and one extra electron, absorbs a neutron the resulting isotope is stable with zero spin, no protons and one additional alpha particle (for example, Zn-67 to Zn-68). There are at least 17 additional examples of this process.

9. The electrons in column 3 circle in pairs and do not affect the isotope spin. They also add to the stability of the isotope by providing an attractive Coulomb force to the nuclei..

10. There are no stable isotopes of Po, At, Rn, Fr, Ra and Ac.

11. U-235 (with 59 alpha particles and 26 electrons) and Pu-239 (with 60 alpha particles and 26 electrons) each is also comprised of three protons and one extra electron. U-235 also is comprised of about 293 MeV of gamma ray entrons and Pu-239 is also comprised of about 308 MeV of gamma ray entrons. Each of U-235 and Pu-239 can capture a neutron so that the isotopes become U-236 and Pu-240 which have half lives of 23.42 million years and 6.56 thousand years, respectively. Alternatively, each of these two nuclei could fission each splitting into a heavy fission product and a lighter fission product and two or three neutrons. The nuclei of all of the fission products decay primarily with the emission of electrons and or gamma ray photons. They do not undergo alpha decay. The two or three neutrons are each a combination of one of the three protons, one of the 26 electrons and one or more gamma ray entrons.

12. When U-235 absorbs a neutron and does not fission, the proton and the electron in the neutron combines with the three protons and the single electron in the U-235 nucleus to create an additional alpha particle in the nucleus to form U-236 with 59 alpha particles and 26 electrons and zero protons. U-236 ultimately decays with an alpha particle with a T½ of 23.42 million years to create Th-232 with a T½ of 1.4×10^{10} years. Then follows a series of five relatively short lived isotopes all of which decay with alpha emissions ending with Pb-208 which has a T½ of 2×10^{19} which is ended with a spontaneous fission.

13. Thoriim-232 nucleus is comprised of 58 alpha particles and 26 electrons. It captures a neutron to become thorium-233 which decays in 22.3 minutes with a beta particle to become Pa 233 which decays in 27 days to become U-233. I propose that U-233 is not a fissionable material but has to capture two neutrons to convert to U-235 which is fissionable by capturing a neutron to produce U-236 which is comprised of 59 alpha particles 26 electrons and lots of gamma ray entrons and a half life of 23.42 million years, or it could fission as described above.

14. All stable nuclei comprised of alpha particles, zero or an even number of electrons and no separate protons have a spin of zero. There about 77 of these nuclei. All stable nuclei comprised of alpha particles, zero or an even number of electrons and two separate protons have a spin of zero. There about 71 of these nuclei, All stable nuclei comprised of alpha particles, zero or an even number of electrons and two separate protons and one separate electron have an integer spin. There are five of these with spins of 1, 1, 3, 5, and 6.

15. There are no stable nuclei with zero protons and an odd number of electrons. Odd electrons are not welcome. There are 19 stable nuclei with one proton and an even number of electrons. There are 21 stable nuclei with three protons and an odd number of electrons. There are 27 stable nuclei with three protons and

an even number of electrons. There are 31 stable nuclei with one proton and an odd number of electrons. They all have spins of ½, 3/2, 5/2, 7/2 or 9/2 with a about half being plus and half being minus.

OTHER WONDERFUL FEATURES OF THE ROSS MODEL

Tronnies

1. Tronnies are point particles with a charge of plus e or minus e.
2. Everything in the Cosmos is made from tronnies or things made from tronnies.
3. Like tronnies repel and unlike tronnies attract.
4. Tronnies travel in perfect circles at speeds of $\pi/2$ times the speed of light.
5. All tronnies are always at the focus of their own Coulomb forces.
6. Tronnies get their charges from speed-of-light Coulomb grids that completely fill our Universe.
7. Tronnies are the source of the Coulomb force.

Coulomb Grids

8. Light, in the form of photons, travels at the speed of light in the speed-of-light Coulomb grids.
9. Each feature of our Universe (including our Universe itself, each star, and each planet) has a Coulomb grid.
10. Coulomb grids have properties similar to those attributed to the formerly postulated ether.
11. The grids have shapes of the feature, so Coulomb grids of stars and planets are curved; space is not curved.
12. Space is nothing; it can't be curved.

Electrons and Positrons

13. Three tronnies make a naked electron and three tronnies make a naked positron.
14. The each tronnie of the electron and positron travels in a perfect circle at $\pi/2$ times the speed of light.
15. So each tronnie is always at the focus of its own Coulomb force which travels at the speed of light.
16. In electrons and positrons a single tronnie travels in a circle with a diameter of 0.9339×10^{-18} m.
17. The two other tronnies circle perpendicular to the path of and 90 degrees behind the single tronnie.
18. The positron is exactly opposite the electron.
19. The number of electrons and positrons in the Cosmos is and always has been exactly equal.
20. Naked electrons and naked positrons are self-propelled at speeds of 2.19×10^{6} m/s.

Entrons and Photons

21. Two opposite tronnies make an entron.
22. Entron diameters range from 0.9339×10^{-18} m to a few centimeters.
23. Entrons provide all the mass of the Cosmos, except for the mass of naked electrons and naked positrons.
24. Each photon is comprised of one entron traveling in a circle at a speed of 2c and forward at a speed of c.
25. The forward speed of the entron during each cycle of the photon varies from minus c to plus three c.
26. Naked electrons and positrons capture entrons to become energetic electrons and positrons.
27. Entrons with energies less than 13.6 eV slow down the electrons and positrons.
28. Higher energy entrons speeds them up.
29. Entrons captured by electrons and positrons add to the mass of the electrons and positrons.

Neutrino Entron and Neutrino Photon

30. The neutrino entron has a diameter of 0.9339×10^{-18} m and a mass equal to about 1.65×10^{-27} kg.
31. In pair production three entorns combine to make an electron and a positron.
32. These entrons are a neutrino entron, a 1.02 MeV entron and a low-energy entron.
33. There is one neutrino entron in every proton and one neutrino entron in every anti-proton.

Protons

34. Naked protons are comprised of an electron combined with a neutrino entron and two positrons.
35. Naked protons are self-propelled at a speed of 4.02×10^{7} m/s.
36. Naked protons collect about 8.37 MeV of gamma ray entrons to slow down to speeds close to zero.
37. Hydrogen-1 is comprised of an energetic, low-speed proton and an orbiting electron.

Alpha Particles and Helium

38. Four H-1 atoms make a He-4 atom with most of the H-1 gamma ray entrons released as fusion energy.
39. The He-4 nucleus is an alpha particle and 6.75 MeV of gamma ray entrons.
40. Velocity of the naked alpha particle is 1.928×10^7 m/s.
41. Naked alpha particles are four circling protons and two electrons circling through the protons' circle.
42. So the two electrons of the alpha particle are mostly located on the outside of the alpha particle.
43. The four protons circle in the center region of the alpha particle.
44. In certain configurations alpha particles can be attractive to each other via their combined Coulomb forces.

Black Holes and Galactic Gravity

45. A Black Hole is located at the center of each galaxy and provides the gravity holding the galaxy together.
46. Each Black Hole consumes portions of its galaxy to produce the gravity of its galaxy.
47. Atoms are reduced to protons, electrons and gamma rays with tremendous heat of the Black Hole
48. Anti-protons are created in the Black Hole.
49. Protons and anti-protons are annihilated releasing two neutrino entrons.
50. Most of the neutrino entrons escape the Black Hole as neutrino photons to provide the galactic gravity.
51. Our Milky Way Black Hole may consume of an earth-size planet per day.
52. This would produce a neutrino photon flux at the Solar System of roughly 69,000 neutrino photons/m^2s.
53. Neutrino photons pass through stars, planets, moons and us providing a reverse force toward their source.
54. Some are temporally stopped and later released to provide gravity of the stars, planets and moons.
55. The neutrino photon flux near the surface of Black Holes are orders of magnitude greater than at earth.
56. Only neutrino photons escape Black Holes, giving Black Holes an effective temperature of 2.16×10^{12} K.
57. Neutrino photons are difficult to detect and that is why Black Holes are black.

Standard Model and Einstein Relativity Mistakes

58. There is no strong force and no weak force; only the Coulomb force which is strong at nuclear distances.
59. There are no gluons, no quarks and no fractional charges.
60. Space and time are completely separate concepts and both are endless.

Life and Death of Universes

61. Our Universe is about 13.8 billion years old but the Cosmos is much, much older.
62. Universes are born and die in Big Bang explosions of Monster Black Holes.
63. Ross Model guesses that our Universe is No. 47 in a series of Universes that grow in size with each cycle.
64. Our Monster Black Hole is currently growing in the center of our Universe.
65. Close-by galaxies are gravitationally attracting each other via Black Hole provided neutrino photons.
66. Far-away galaxies are expanding due to star produced lower energy photon pressure between galaxies.
67. Low-energy photons currently pass through inter-galactic space better than neutrino photons.
68. Ultimately our Universe's Monster Black Hole will begin attracting all galaxies in our Universe.
69. It may take about 50 billion years for some of our galaxies to reach the vicinity of the Monster Black Hole.
70. When they do they will be traveling many thousand times the speed of light.
71. The Monster Black Hole will explode before all of the galaxies have been consumed.
72. The inertia of the lagging high-speed galaxies will provide the inflation period of our successor universe.

In the Very Beginning – Mass and Energy from Empty Space

73. In the very beginning, before there was anything there was nothing, no mass, no energy, just empty space.
74. Portions of empty space split into two parts, point particles - no mass but + and - charges (i.e. tronnies).
75. Opposite charges attracted each other, like charges repelled, all at the speed of light.
76. Each tronnie, being exactly like itself, repels itself with its own speed-of-light Coulomb force.
77. Opposite charged tronnies form entrons with diameters from 0.9339×10^{-18} m to a few centimeters.
78. Integrated attractive and repulsive Coulomb forces in the entron's diametrical directions are exactly equal.
79. These integrated Coulomb forces have units of mass and equivalent energy.
80. Mass and energy of the entrons are inversely proportional to enron's diameters.
81. The most massive is the neutrino entron with diameter of 0.9339×10^{-18} m and mass of 1.65×10^{-27} kg.
82. Thus, mass and energy are created from point particles with no mass and no energy.

Creation of Electrons and Positrons

83. Three entrons (each with no net charge) combine forming an electron and a positron (charges of +e and –e).
84. The three entrons are: (1) a neutrino entron, (2) a 1.02 MeV entron and (3) a low-energy entron.
85. The electron and the positron sizes are about twice the size of the diameter of the neutrino entron.
86. Their masses are each half the mass of the 1.02 MeV entron.
87. The neutrino entron disappears in pair production but reappears in electron-positron annihilation.
88. It's not magic; the neutrino entron is two of the six tronnies; four tronnies make two 0.511 MeV entrons.

Creation of Protons and Anti-Protons

89. A neutrino entron combines with an electron and two positrons to form a proton.
90. A neutrino entron combines with a positron and two electrons to form an anti-proton.
91. But electrons and positrons are attractive to each other and combine to annihilate each other.
92. Purely by chance in some region of space more protons were produced than anti-protons.
93. This reduced the ratio of positron to electrons population increasing the probability of proton production.
94. Therefore, after billions or trillions of years our Universe is dominated by protons and not anti-protons.
95. However, there may be other parallel universes in the Cosmos that are dominated by anti-protons.

Creation from Nothing

96. First, before there was anything there was nothing.
97. Plus and minus tronnies were created from nothing; tronnies have on mass and no energy, only charge.
98. Tronnies attract each other and repel themselves creating entrons; entrons have mass and energy.
99. Entrons travel as photons; they can combine to make higher energy entrons.
100. The pre-universe gets very hot; finally neutrino entrons and neutrino photons are formed.
101. Neutrino entrons combinewith two other entrons to form electrons and positrons.
102. Entrons combine with electrons and positrons to form high-energy, high-mass electrons and positrons.
103. Electrons, positrons, entrons and photons form pre-universe plasma.
104. Neutrino entrons combine with electrons and positrons to form protons and anti-protons in equal portions.
105. Naked protons and naked anti-protons are self propelled at high speeds.
106. By chance protons begin to dominate anti-protons and the relative population of free positrons decreases.
107. Creation of protons becomes more likely compared to anti-protons.
108. High-speed protons collect entrons of gamma ray photons to become very energetic slow-speed protons.
109. This also cools off the central region of this pre-universe.
110. Slow-speed protons collect electrons to become hydrogen atoms in the center of the pre-universe.
111. Electrons and positrons beyond the central region form a shell around the central region reflecting photons.
112. These reflecting photons create a uniform speed-of-light cosmic background radiation field.
113. High-energy, slow speed protons collect in stars where hydrogen atoms combine to make alpha particles.
114. Fusion energy in the form of gamma ray entrons heats the stars to high temperatures.
115. Alpha particles combine with up to three protons and 26 electrons and gamma ray entrons to make atoms.
116. Stars explode to scatter atoms and atoms combine to make planets and moons.
117. Some stars get hot enough to break down atoms into alpha particles and protons.
118. Some of these stars become black holes, hot enough to produce neutrino entrons
119. Neutrino entrons combine with positrons and two electrons to make anti-protons.
120. Protons and anti-protons annihilate each other to release electrons, positrons and neutrino entrons.
121. Neutrino entrons are released from black holes to create gravity to form galaxies.
122. Close-by galaxies attract with neutrino photon gravity and far away galaxies repel with photon pressure.
123. A universe is formed and expands for millions or billions of years.
124. A monster black hole grows in the center of the universe.
125. Ultimately its gravity extends to the edge of the universe.
126. Over millions or billions of years all galaxies are accelerated toward the monster black hole.
127. The monster black hole explodes ending the life of the universe and creating its successor universe.
128. Some galaxies falling toward the region of the exploding monster black hole passes through the region.
129. These galaxies are traveling at speeds that may exceed the speed of light.
130. These galaxies provide the inflation of the successor universe.
131. The successor universe is mostly protons, electrons, alpha particles and photons of all energies.
132. A series of universes are born in big bang explosions, expand, contract and die in big bang explosions.
133. After 46 universes, our Universe was born.

All of these features are explained and additional details of the Ross Model are described in my book,

Tronnies – The Source of the Coulomb Force,

available at amazon.com. Search for **"Tronnies**"

John R. Ross