Neutrinos and Angular Momentum

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Summary

This focuses on the angular momentum various types of Neutrinos can have. It assumes the structure of matter describes elsewhere in this series of articles.

Angular Momentum

Angular Momentum is the product of linear momentum and radius present when wavicles are in orbitals. As Angular Momentum is conserved, this can in theory be calculated from any point in space, but conventionally 2 points are used: the center of the space (here the center of the wavicle), or the center of mass of the object. Either will produce the same result, but 1 may be easier to calculate for. In this case the center of mass requires calculating a systemic value for each constituent, while the center of volume allows the paired wavicles to cancel out.

From my other research, the photon is a 6 piece structure with 4 proto-photons and 2 gravitons. From the Pauli Exclusion Principle, each of these is in separate quantum states: the 2 gravitons in the 1s orbitals, 2 proto-photons in the 2s orbitals and 2 proto-photons in 3s orbitals. This gives a twelfth the energy to each graviton.

Similarly the neutrinos can have 2 gravitons in 1s orbitals and a neutral proto-lepton in a higher spherical orbital. The simplest neutrino has its proto-lepton in a 2s orbital. For any overall energy, the 2s orbit has twice the 1s energy. This gives an angular momentum of 2 units, each of which is 16.443914 MeV fm/c. This simplest neutrino's angular momentum is 32.8878 MeV fm/c.

The simplest case is naturally not the only possible solution. A single proto-lepton can orbit in any spherical orbit (other than the 1s the gravitons own). If multiple neutral proto-leptons can exist in a single structure, the number of possible cases is essentially infinite, but probably not continuous. It is even possible the proto-lepton can be in the 1s orbit, while the 2 gravitons are promoted to 2s. This is the lowest energy solution with an angular momentum of 1 unit, the others with 1 unit have a ns and a n+1s with opposing orientations.

To simplify studying these many cases, I numbered them using base 3 (since each spherical orbital can have 0, 1, or 2 proto-leptons) highest orbital to lowest, then converted the result back to decimal. This numbering system handles all the combinations of proto-leptons, but not the permutations. If 2 or more sub-shells are half –full (with 1 proto-lepton in each), variations on the case exist with some having parallel angular momentum (adding), and some having opposing angular momentum (subtracting). With i the number of half-filled sub-shells, the number of variations for a case is 2^{i-1}. The worst case with 10 half-filled sub-shells (the last I worked) has 512 variations. These can in turn be assigned a binary variant number that extends the trinary case number (show in the table as 9841.511 for instance). It is unlikely all of these cases or variations actually exist, but any of them could exist. For ease of reading, there is a small gap after 4s and 8s. All cases through 4s and the more interesting cases through 10s are shown. Most likely the charged leptons correspond to cases with a single proto-lepton (case numbers 3^n). Additional cases with the gravitons in the 2s orbitals can be generated, but they have higher energy than the 1s orbital case, so are unlikely.

Case Number	**Format (1s2s…)**	**L (in standard units)**
-1	v0GG	1
0	GG	0
1	GGv0	2
2	GGvv	0
3	GG00v0	3
4.0	GGv0v0	5
4.1	GGv0v0	1
5	GGvvv0	3
6	GG00vv	0
7	GGv0vv	2
8	GGvvvv	0
9	GG0000v0	4
10.0	GGv000v0	5
10.1	GGv000v0	2
11	GGvv00v0	4
12.0	GG00v0v0	7
12.1	GG00v0v0	1
13.0	GGv0v0v0	9
13.1	GGv0v0v0	5
13.2	GGv0v0v0	3
13.3	GGv0v0v0	1

14.0	GGvvv0v0	7
14.1	GGvvv0v0	1
15	GG00vvv0	4
16.0	GGv0vvv0	6
16.1	GGv0vvv0	2
17	GGvvvvv0	4
18	GG0000vv	0
19	GGv000vv	2
20	GGvv00vv	0
21	GG00v0vv	3
22.0	GGv0v0vv	5
22.1	GGv0v0vv	1
23	GGvvv0vv	3
24	GG00vvvv	0
25	GGv0vvvv	2
26	GGvvvvvv	0
27	GG000000 v0	5
28.0	GGv00000 v0	7
28.1	GGv00000 v0	3
30.0	GG00v000 v0	8
30.1	GG00v000 v0	2
36.0	GG0000v0 v0	9
36.1	GG0000v0 v0	1
81	GG000000 00v0	6
82.0	GGv00000 00v0	8
82.1	GGv00000 00v0	4
84.0	GG00v000 00v0	9
84.1	GG00v000 00v0	3
90.0	GG0000v0 00v0	10
90.1	GG0000v0 00v0	2
108.0	GG000000 v0v0	11
108.1	GG000000 v0v0	1
243	GG000000 0000v0	7
244.0	GGv00000 0000v0	9
244.1	GGv00000 0000v0	5
246.0	GG00v000 0000v0	10
246.1	GG00v000 0000v0	4
252.0	GG0000v0 0000v0	11
252.1	GG0000v0 0000v0	3
270.0	GG000000 v000v0	12

270.1	GG000000 ν000ν0	2
324.0	GG000000 00ν0ν0	13
324.1	GG000000 00ν0ν0	1
729	GG000000 000000ν0	8
2187	GG000000 00000000 ν0	9
6561	GG000000 00000000 00ν0	10

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