# ELECTRON ORBIT HARMONICS

In the following, the order of atomic elements is arranged according to the octave harmonic positions of their orbit and sub-orbit electrons. The element Hydrogen, for instance, is considered the fundamental element with a single electron. Helium, with two electrons is the first octave of the system.

Every element above Helium contains Helium in its K-shell electron orbit( s-shell sub-orbit), and all of these elements have the first octave in their harmonic patterns.

The first octave is complete with Helium, and the second with Carbon. Carbon contains Helium in its K-shell orbit, but has 4 additional electrons in its next (p) sub-orbit. Since 4 is the octave of 2, Carbon is the second octave element. The elements Li, Be, and B, between He and C, have their own respective harmonic intervals between 1 (the first octave) and 2 (the second octave).

The whole numbers in the chart are octave numbers and the fractional numbers are the intervals between successive octaves. An example of this is: "1,2.25", the designation for the element Nitrogen (N), which contains the first and second octaves plus an interval that is .25 above the second octave. Because of the increasing complexity of the electron sub-orbit system, more than one harmonic order is possible. All possible orders are listed in the chart.

| ELEMENT | HARMONIC ORDERS: | | |
|---|---|---|---|
| | A. | B. | C. |
| H | 0(fundamental) | | |
| He | 1 | | |
| | | | |
| Li | 1.25 | | |
| Be | 1.50 | | |
| B | 1.75 | | |
| C | 1, 2 | | |
| N | 1, 2.25 | | |
| O | 1, 2.50 | | |
| F | 1, 2.75 | | |
| Ne | 1, 3.00 | | |
| | | | |
| Na | 1, 3.125 | | |
| Mg | 1, 3.250 | | |
| Al | 1, 3.375 | | |
| Si | 1, 3.500 | | |
| P | 1, 3.625 | | |
| S | 1, 3.750 | | |
| Cl | 1, 3.875 | | |
| A | 1, 4.000 | | |

| | A | B | C |
|---|---|---|---|
| K | 1,4.0675 | 1,3,3.1 | 1,3,3.5 |
| Ca | 1,4.125 | 1,3,3.2 | 1,3,3,1 |
| Sc | 1,4.1875 | 1,3,3.3 | 1,3,3,1.5 |
| Ti | 1,4.250 | 1,3,3.4 | 1,3,3,2 |
| V | 1,4.3175 | 1,3,3.5 | 1,3,3,2.25 |
| Cr | 1,4.375 | 1,3,3.6 | 1,3,3,2.5 |
| Mn | 1,4.4425 | 1,3,3.7 | 1,3,3,2.75 |
| Fe | 1,4.500 | 1,3,3.8 | 1,3,3,3 |
| Co | 1,4.5675 | 1,3,3.9 | ------- |
| Ni | 1,4.625 | 1,3,4 | 1,3,3,3,1 |

ISOFORMS(IFMS) OF THE ELEMENTS:

| Element | p | n | % | IFMS |
|---|---|---|---|---|
| H | 1 | 0 | 99.986 | |
| D | 1 | 1 | .014 | |
| T | 1 | 2 | ---- | |
| He3 | 2 | 1 | .0001 | |
| He4 | 2 | 2 | 99.9999 | |
| He5* | 2 | 3 | ---- | |
| Li6 | 3 | 3 | 7.4 | |
| Li7 | 3 | 4 | 92.6 | |
| Be | 4 | 5 | 100. | |
| B10 | 5 | 5 | 19.7 | |
| B11 | 5 | 6 | 80.3 | |
| C12 | 6 | 6 | 98.89 | |
| C13 | 6 | 7 | 1.11 | |
| C14* | 6 | 8 | ---- | 2Li7 |
| N14 | 7 | 7 | 99.63 | |
| N15 | 7 | 8 | .37 | |
| O16 | 8 | 8 | 99.76 | |
| O17 | 8 | 9 | .04 | |
| O18 | 8 | 10 | .20 | 2Be |
| F | 9 | 10 | 100. | |
| Ne20 | 10 | 10 | 90.92 | |
| Ne21 | 10 | 11 | .26 | |
| Ne22 | 10 | 12 | 8.82 | 2B11 |
| Na | 11 | 12 | 100. | |

| | | | | |
|---|---|---|---|---|
| Mg24 | 12 | 12 | 78.6 | |
| Mg25 | 12 | 13 | 10.1 | |
| Mg26 | 12 | 14 | 11.3 | 2C13 |
| Al | 13 | 27 | 100. | |
| Si28 | 14 | 14 | 92.2 | |
| Si29 | 14 | 15 | 4.7 | |
| Si30 | 14 | 16 | 3.1 | 2N15 |
| P31 | 15 | 16 | 100. | |
| P32* | 15 | 17 | -- | N15+O-17 |
| S32 | 16 | 16 | 95. | |
| S33 | 16 | 17 | .76 | |
| S34 | 16 | 18 | 4.22 | 2xO17 |
| S36 | 16 | 20 | .014 | 4Be, 2Li7+2B11 |
| Cl35 | 17 | 18 | 75.5 | |
| Cl37 | 17 | 20 | 24.5 | O-18+F |
| Ar36 | 18 | 18 | .34 | |
| Ar38 | 18 | 20 | .06 | 2F |
| Ar40 | 18 | 22 | 99.6 | 2(Be+B11) |
| K39 | 19 | 20 | 93.2 | |
| K40* | 19 | 21 | .012 | F+Ne21 |
| K41 | 19 | 22 | 6.77 | F+Ne22, 3B11+C12 |
| Ca40 | 20 | 20 | 96.97 | |
| Ca42 | 20 | 22 | .64 | 2Ne21, 2B10+2B11 |
| Ca43 | 20 | 23 | .15 | Ne21+Ne22, B10+3B11 |
| Ca44 | 20 | 24 | 2.06 | 2Ne22, 4B11 |
| Ca46 | 20 | 26 | .003 | 2(O-18+D) |
| Ca48 | 20 | 48 | .185 | 2(O-18+T) |
| Sc45 | 21 | 24 | 100. | Na+Ne22, 3N15 |
| Ti46 | 22 | 24 | 8. | 2Na, Ne22+C12, Ne21+C13, S34+C12 |
| Ti47 | 22 | 25 | 7.3 | Ne22+C13, 3B11+N14 |
| Ti48 | 22 | 26 | 74. | 4B11+He4 |
| Ti49 | 22 | 27 | 5.5 | Ar40+Be |

## NEUTRON NUMBERS OF STABLE AND UNSTABLE ISOTOPES

Legend: underlined - unstable isotope; not underlined - stable isotope; “*” missing isotope; “-“ continuous sequence;
Z = Atomic Number; N = Neutron number.

Z Symbol N

18 Ar -1 0 1 2 3 4 5
19 K -1 0 1 2 3 4 5 6
20 Ca -1 0 * 2 3 4 5 6 7 8 9
21 Sc -1 0 1 2 3 4 5 6 7
22 Ti 0 1 2 3 4 5 6 7
23 V 1 2 3 4 5 * 7
24 Cr 1 2 3 4 5 6
25 Mn 1 2 * 4 5 6
26 Fe 0 1 2 3 4 5 6 7
27 Co 1 2 3 4 5 6 7 8
28 Ni 1 2 3 4 5 6 7 8 9 10
29 Cu 0 1 2 3 4 5 6 7 8 9
30 Zn 2 3 4 5 6 7 8 9 10 11 12
31 Ga 2 3 4 5 6 7 8 9 10 11
32 Ge 3 4 * 6 7 8 9 10 11 12 13 14 15
33 As 5 6 7 8 9 10 11 12
34 Se 3 4 5 6 7 8 9 10 * 12 13 14 15 16
35 Br 5 6 7 8 9 10 11 12 13 14 15 * 17 18

36 Kr 5 6 7 8 * 10 11 12 13 14 15 16 17 18 19 20 21 22 * * 25
37 Rb 7 8 9 10 11 12 13 14 15 16 17 * 19 20 * * 23
38 Sr 8 9 10 11 12 13 14 15 16 17 18 * * 21
39 Y 9 10 11 12 13 14 15 16 * * 19
40 Zr 9 10 11 12 * 14 15 16 17
41 Nb 8 * 10 11 12 13 14 15 16
42 Mb 8 9 10 11 12 13 14 15 16 17 18 * * 21
43 Tc 6 7 8 9 10 * 12 13 14 15 * * 18
44 Ru 7 8 9 10 11 12 13 14 15 16 17 18 19
45 Rh 10 11 12 13 14 15 16 17
46 Pd 8 9 10 11 12 13 14 * 16 17 18 19 20
47 Ag 11 12 13 14 15 16 17 18 19
48 Cd 10 11 12 13 14 15 16 17 18 19 20 21
49 In 11 12 13 14 15 16 17 18 19

50 Sn 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
51 Sb 15 16 17 18 19 20 21 22 23 24 25*27**30 31 32
52 Te 14 15 16 17 18 19 20 21 22 23 24 25 26 27 - - - 31

## Neutron Numbers

The following chart is a compilation of elements that have a neutron number (N) of either 7 or 14, or both 7 and 14. The chart was taken from data on the stable and radioactive isotopes of the elements. The neutron number is the number of neutrons remaining in the atomic nucleus after "parity", where one neutron is paired with one proton. The hydrogen isotope, deuterium, is the model for parity.

In the chart, the first column lists the element's atomic number (Z), the second column identifies the element's symbol, and the third column lists the total number of neutrons for the element (n). The fourth column lists the range of neutron numbers (N) for the elements.

The neutron numbers for the radioactive isotopes of the element are underlined, while the numbers for the stable isotopes are not. An unbroken sequence of neutron numbers is indicated by dotted lines between the first and last values in the sequence, e. g., 12.......17 for the element Rb. Gaps in the sequence of neutron numbers, where the existing sciences have discovered no isotopes, stable or radioactive, are identified by an asterisk. Common values of N have been placed in the same vertical column for the sake of comparison.

The group of elements 26-37 (Fe-Rb) all have a neutron number of 7. The group of elements 32-52 (Ge-Te) all have a neutron number of 14. The group of elements 32-37 (Ge-Rb) have neutron numbers of 7 and 14.

The heaviest elements that can be produced through fusion are those in the ferromagnetic group (Fe, Co, Ni). Fusion is a magnetic process which uses the attractive magnetic force field to hold atoms together while their nuclei are undergoing fusion. This is also the reason why the nuclear binding energy per nucleon reaches its maximum level in the ferromagnetic elements.

Cu, a diamagnetic element, is the first element that is produced by the process of nuclear fission, which breaks apart heavy nuclei into two lighter nuclei. The elements that have 7 unpaired neutrons contain the information that is necessary to change the nuclear process from fusion to fission, and the change the magnetic field from attractive magnetic to repulsive diamagnetic.

The neutron number of 9 defines the border between these two basic types of elements. Cu is the first element to have 9 unpaired neutrons, and it is also the first diamagnetic transition metal. Diamagnetism prevails in elements until there is a break in the neutron number of 9 at the element Ar, which does not have this neutron number amongst its population of isotopes. Above Ar, there is a change from diamagnetism back to magnetism.

The first element with 14 unpaired neutrons is Ge. This element is a Group IVB quadrivalent in the Mendeleev Periodic Chart. Through covalent bonding, this element can form into the geodesic family of crystals that are able to transform the nuclear force field into a gravitational force field.

After Ge, the continuous sequence of elements with a neutron number of 14 ends with the next quadrivalent element, Sn. Te also has 14 unpaired neutrons, but the element between Sn and Te (Sb) does not have a neutron number of 14, so the continuous group of elements begins and ends with elements that provide the framework for geodesic crystals.

The transition from the magnetic to the diamagnetic elements in the 14N elements is not as well defined as the transition that occurs in the 7N group of elements (Fe - Ar). The dominant information property of these elements is that of "geometrical placement", which is the property that determines how the elements will be placed into the latticework of the geodesic crystal.

The transition from Pd to Ag should be the same as that from Fe to Cu, but it is not. Pd is usually para-magnetic, but can be diamagnetic if this is the prevailing field. The Fe to Cu transition is always from strongly magnetic (ferromagnetic) to strongly diamagnetic.

The next harmonic to the neutron number of 7 is that of 28. The first element in this group is Te, which is also the last element in the 14N group. This group extends through the La rare earth series of elements that ends with Lu (Z = 71).

Magnetic information is predominant in this group of elements. Acting as dopants in small numbers, the rare earth atoms enhance the magnetic or diamagnetic properties of the geodesic crystalline structure.

The arrangement of elements in the 28N group is similar to that in the 7-14N group. Se begins the group that has both 7 and 14 unpaired neutrons. In the same VIB column in the Periodic Chart, Te begins the group that has 28 unpaired neutrons. This would indicate that the information properties of the two groups are similar.