Increase of Intensity – Consequence of Acceleration

The ***proton process*** (the sphere symmetrical expanding acceleration of mass from $\lim v = 0$ to $i = \lim v = c$) is direct transformation of mass into energy in time.

Transformation from $\lim v = 0$ to v and finally to $i = \lim v = c$.

$$\Delta e_p = \frac{dmc^2}{dt_p \varepsilon_p}\left(1-\sqrt{1-\frac{v^2}{c^2}}\right) = \frac{dmc^2}{dt_p \varepsilon_p} - \frac{dmc^2}{dt_p \varepsilon_p}\sqrt{1-\frac{v^2}{c^2}}; \qquad \lim v > 0 \text{ and } v = i$$

ε_p is the intensity of the speed increase – acceleration: $\frac{dm}{dt} \to \frac{dv}{dt} = a \to \varepsilon$

The drive of the event is the *negative* mass change gradient: $\frac{dm}{dt_{n-1}} > \frac{dm}{dt_n} > \frac{dm}{dt_{n+1}}$

The ***electron process*** is sphere symmetrical expanding acceleration for infinite time at quasi constant $i = \lim a\Delta t = c$ speed and constant time system.

$$w_e = \Delta e_e = \frac{dmc^2}{dt_i \varepsilon_e}\left(1-\sqrt{1-\frac{(c-i)^2}{c^2}}\right) = \frac{dmc^2}{dt_i \varepsilon_e} - \frac{dmc^2}{dt_i \varepsilon_e}\sqrt{1-\frac{(c-i)^2}{c^2}} = \frac{dn}{dt_i \varepsilon_e} q;$$

ε_e is the intensity of the $(c-i)$ acceleration of the electron process in general

Mass looses from its value, but not because of its transformation, rather the work against the *Quantum System of Reference*: loading the *Quantum Membrane*, the drive of the neutron collapse. At the end of the electron process, mass is reaching the status of *quantum entropy*.

During the ***neutron process*** is sphere symmetrical accelerating collapse – result of the *red shift* of the *blue shift* impact of the electron process, the *(re-)transformation* of energy into mass.

$$\Delta e_{ni} = \frac{dmc^2\sqrt{1-\frac{(c-i)^2}{c^2}}}{dt_i \varepsilon_n} - \frac{dmc^2\sqrt{1-\frac{(c-i)^2}{c^2}}}{dt_i \varepsilon_n \sqrt{1-\frac{(c-v)^2}{c^2}}};$$

ε_n is the intensity (acceleration) of the collapse

$(c-v)$ is the speed difference to the *Quantum System of Reference*. With the progress of the collapse $i \geq v \geq 0$ the speed difference is growing.

The mass change gradient is *positive:* $\frac{dm}{dt_{n-1}} < \frac{dm}{dt_n} < \frac{dm}{dt_{n+1}}$ - the collapse needs external drive.

The driving force of the neutron collapse is the *blue shift* impact of the electron process.

The <u>*sphere symmetrical expanding acceleration*</u> of protons keeps balance with the <u>*sphere symmetrical accelerating collapse*</u> of neutrons. The two processes however have difference in intensities.

$$\frac{mc^2}{dt_o \varepsilon_p}\left(1-\sqrt{1-\frac{i^2}{c^2}}\right) = \frac{mc^2}{dt_o \varepsilon_n}\sqrt{1-\frac{(c-i)^2}{c^2}}\left(\sqrt{1-\frac{i^2}{c^2}}-1\right)$$

or in its other form:

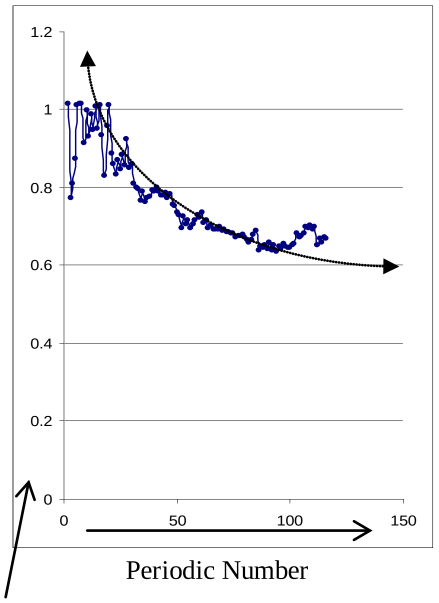
$$\frac{\dot{m}_p c^2}{\varepsilon_p}\left(1-\sqrt{1-\frac{i^2}{c^2}}\right) = \frac{\dot{m}_n c^2}{\varepsilon_n}\sqrt{1-\frac{(c-i)^2}{c^2}}\left(\sqrt{1-\frac{i^2}{c^2}}-1\right)$$

The relation of the measured effect (weight) of the masses change and the intensities between P and N:

$$\frac{N}{P} = \frac{\dot{m}_n}{\dot{m}_p}\sqrt{1-\frac{(c-i)^2}{c^2}}; \qquad Z_{element} = \frac{N}{P} = \left|\frac{\varepsilon_n}{\varepsilon_p}\right|; \qquad \varepsilon_e = \left|\frac{\varepsilon_p}{\varepsilon_n}\right|\sqrt{1-\frac{(c-i)^2}{c^2}} *$$

$dt_o = dt_p = dt_n$ - since the time systems of the end and the start of the next cycles are identical.

* ε_e is shown as non-dimensional parameter, but it has real physical value.



Periodic Number

$\frac{1}{Z}$ – *reciprocal to the value of the event concentration*

(^1_1H) *Hydrogen* in this chain is *unique*.

The infinite low *Z* means the duration of the neutron collapse of the *Hydrogen* is infinitely long. The *blue shift* need of the neutron collapse is infinite low. The infinite low intensity of the neutron process – the infinite long time shift between the proton and neutron processes – makes it possible to use the available *blue shift* of the *Hydrogen* for the *red shift* needs of the neutron collapse of other elements. That is why *Hydrogen* is so active in chemical reactions.

The transformation balance of matter needs neutron process against the existing proton process. If the neutron process of the *Hydrogen* is infinitely long, with infinite low intensity – the "particle" is not measurable in *our* system of reference on the *Earth.*

The $Z < 1$ means: the intensity of the energy generation of the protons is more than the intensity of the energy utilization of neutrons. Elements with $Z < 1$ are the *most* active (chemical reaction) most energy efficient elements: *blue shift* "energy" *providers.*

Acceleration intensifies elementary processes. The formula of the neutron process, accelerated to speed $u{=}i$ is:

$$w_{neutron}^{collapse} = \frac{dmc^2}{dt_o\varepsilon_n} \frac{\sqrt{1-\frac{i^2}{c^2}}\sqrt{1-\frac{(c-i)^2}{c^2}}}{\sqrt{1-\frac{u^2}{c^2}}} \left(1-\frac{1}{\sqrt{1-\frac{(c-v)^2}{c^2}}}\right)$$

v is changing from c to $\lim v = 0$ and at the stage of full collapse it will be:

$$w_{neutron}^{full-collapse} = \frac{dmc^2}{dt_o\varepsilon_n} \frac{\sqrt{1-\frac{i^2}{c^2}}\sqrt{1-\frac{(c-i)^2}{c^2}}}{\sqrt{1-\frac{i^2}{c^2}}} \left(1-\frac{1}{\sqrt{1-\frac{i^2}{c^2}}}\right)$$

$$where\ \ i = \lim a\Delta t = c$$

Hydrogen proton has its neutron, but it is of infinite low intensity. Therefore cannot be measured. With the acceleration of the *Hydrogen* proton to *i=0.99999999c* its neutron process becomes also accelerated. Acceleration means intensity increase. At the level of such high speed of acceleration, the increased intensity will result in measured neutron. And this is strange, because *Hydrogen* "does not have" neutron. The acceleration results in s*trange elementary* structure. This is dangerous, because there is no element with a single proton and single neutron in the nature. (*Deuterium* does exist, but its content in the nature is less than 3%.)

Consequences of the *Hydrogen* proton (and neutron) acceleration are unpredictable.

As a general rule, the less *Z*, the event concentration, is, the more energy efficient the element is. The most energy efficient 16 elements are listed in the Table below. The values are based on recorded measured mass data, sensitivity of $10^{-27}\,kg$ for the *protons*, and $10^{-31}\,kg$ for the *electrons*. The table also contains those elements, the event concentration of which are close to $Z \geq 1$.

Table of the most active elements
Elements with $Z<1$ are with electron *blue shift* surplus

Element	**PN**	***M***	***Z***
Hydrogen	1	1.00790	***lim Z = 0*** (?!!)
Oxygen	8	15.99900	**0.984897**
Nitrogen	7	14.00670	**0.985971**
Helium	2	4.00260	**0.986312**
Carbon	6	12.01100	**0.986841**
Sulphur	16	32.06000	**0.988744**
Calcium	20	40.08000	**0.988992**
Silicon	14	28.08550	**0.991084**
Neon	10	20.17000	1.001898
Magnesium	12	24.30500	1.010254
Kalium	19	39.09800	1.042393
Phosphorus	15	30.97370	1.049466
Aluminium	13	26.98150	1.059976
Chlorine	17	35.45300	1.069875
Natrium	11	22.98900	1.074281
Nickel	28	58.71000	1.081108
Fluorine	9	18.99840	1.095154

(!!) is a note – data are not representing the real case, but based on the Periodic Table.