

The quantum impulse (the energy quantum)

Before dealing with the *quantum impulse*, the meaning of *quantum entropy* must be clarified.

The intensity of the start of the elementary process is: $\frac{dmc^2}{dt_o}$ A1

Proton process: $\frac{dmc^2}{dt_o} \left(1 - \sqrt{1 - \frac{i^2}{c^2}}\right) = \frac{dmc^2}{dt_o} - \frac{dmc^2}{dt_i}$; where $i = \lim a\Delta t = c$ A2

The intensity of the sphere symmetrical expanding acceleration continuous to the time count of $dt_i = \frac{dt_o}{\sqrt{1 - \frac{i^2}{c^2}}}$ dt_o is corresponding to the time system of the *inflexion*. A3

Neutron process: the collapse from the fully expanded state to the status of the *inflexion*.

$$\begin{aligned} \frac{dmc^2}{dt_o} \sqrt{1 - \frac{(c-i)^2}{c^2}} \left(\sqrt{1 - \frac{i^2}{c^2}} - 1 \right) &= \frac{dmc^2}{dt_i} \sqrt{1 - \frac{(c-i)^2}{c^2}} - \frac{dmc^2}{dt_o} \sqrt{1 - \frac{(c-i)^2}{c^2}} = \\ &= \frac{dmc^2}{dt_o} \sqrt{1 - \frac{i^2}{c^2}} \sqrt{1 - \frac{(c-i)^2}{c^2}} - \frac{dmc^2}{dt_o \sqrt{1 - \frac{i^2}{c^2}}} \sqrt{1 - \frac{(c-i)^2}{c^2}} \end{aligned} \quad \text{A4}$$

The fully expanded status is a kind of inflexion. Collapse can only start if all intensity of the expansion has been expired. $dt_{fe} = \frac{dt_i}{\sqrt{1 - \frac{(c-i)^2}{c^2}}}$ $\lim(c-i) = 0$ A5

The full expansion process is acceleration at constant speed, the expiration of the energy intensity of the expansion process against the quantum membrane.

This is the electron process, the *blue shift* drive of the collapse $e_{drive} = \frac{dmc^2}{dt_i} - \frac{dmc^2}{dt_{fe}} = \frac{dmc^2}{dt_i} - \frac{dmc^2}{dt_i} \sqrt{1 - \frac{(c-i)^2}{c^2}}$ A6

Expansion accounts for the internal energy/mass intensity of the process.

Collapse cannot happen without external energy/mass intensity support.

(Categories energy and mass in our *space-time* follow the appearance of the process.)

The principal points of the intensity value of the full expansion are:

- the quantum system is of infinite low intensity;
- while the electron process *blue shift* drive is of infinite low value, it cannot be zero, as “the nothing”, as such does not exist; inflexion is the status of relative rest. $\frac{dmc^2}{dt_i} \neq \frac{dmc^2}{dt_i} \sqrt{1 - \frac{(c-i)^2}{c^2}}$ A7

The neutron process starts with reference to A5 from dt_{fe} (the status of full expansion).

The elementary balance equation in absolute values is:

$$\frac{dmc_x^2}{dt_p \varepsilon_p} \left(1 - \sqrt{1 - \frac{i^2}{c^2}}\right) = \xi \frac{dmc_x^2}{dt_n \varepsilon_n} \sqrt{1 - \frac{(c-i)^2}{c^2}} \left(1 - \sqrt{1 - \frac{i^2}{c^2}}\right) \quad \text{A8}$$

And the electron process *blue shift* drive is:
$$\frac{dmc_x^2}{dt_i \varepsilon_x} \left(1 - \sqrt{1 - \frac{(c-i)^2}{c^2}} \right) \quad \text{A9}$$

With reference to the time counts dt_p and dt_n of the proton and neutron processes in A8 versus dt_o in A2 and A4, the explanation is that dt_o is for the common time platform of the comparison of the processes. As the neutron/anti-neutron and anti-proton/proton processes go through *inflexions*, the time definition of relative rest for one and the same elementary process should be identical.

dt_p and dt_n mean the elementary balance with certain intensities of the change, ε_x is the intensity relation of the proton and neutron processes;

dt_i the time system of the electron process. It is a universal one and ensures the quantum communication, c_x is the speed of quantum communication, the result of the elementary progress from the *plasma* state and the cooling process of *plasma – gravitation*.

There are two consequences of the balance in A8:

$$\begin{array}{ll} 1./ & 2./ \\ \frac{dt_n}{dt_p} = \xi \frac{\varepsilon_p}{\varepsilon_n} \sqrt{1 - \frac{(c-i)^2}{c^2}}; \text{ and } \frac{\Delta t_n}{\Delta t_p} = \varepsilon_e \xi; & \lim_{i=\lim a \Delta t=c} \xi = \lim \frac{dt_n \varepsilon_n}{dt_p \varepsilon_p} \frac{1}{\sqrt{1 - \frac{(c-i)^2}{c^2}}} = 1 \end{array} \quad \text{B1}$$

approaching it from above!

With reference to A2 and A4, there is always a remaining *quantum energy* intensity portion “reserve” – the *entropy* consequence within the process (within the mass/energy transformation - in conventional terms), which is equivalent to the intensity difference of the proton and neutron processes: $\Delta q = e_p - e_n$ [and also: $dt_p \varepsilon_p = dt_n \varepsilon_n = 1$] Ref
A2
A4
B2

- ! It has to be noted that B2 is in relativistic terms, which means the intensity capacity
- of the proton process cover is always more than the one, de facto utilised. This is important, since the majority of the elementary processes are with higher neutron process intensity.

The electron process is the drive of the collapse. This is the reason, the electron process as balance component is represented as part of the neutron process.

The generating intensity of the expansion (of the proton process) generates the intensity need of the drive (the electron process) and the cover of the collapse (the neutron process). The cover is permanent, but with reference to B2 with the remaining acting quantum entropy intensity value.

The intensity of the proton process cover, with reference to A2 is:
$$e_p = \frac{dmc^2}{dt_o} \left(1 - \sqrt{1 - \frac{i^2}{c^2}} \right) \quad \text{Ref A2}$$

While the cover intensity need of the neutron collapse, with reference to A4 is:
$$e_p = \frac{dmc^2}{dt_o} \sqrt{1 - \frac{(c-i)^2}{c^2}} \left(1 - \sqrt{1 - \frac{i^2}{c^2}} \right) \quad \text{Ref A4}$$

With reference to A8 the basis for *entropy* generation is the elementary function of

$$\frac{dmc^2}{dt_p \varepsilon_p} \left(1 - \sqrt{1 - \frac{i^2}{c^2}} \right) = \xi \frac{dmc^2}{dt_n \varepsilon_n} \sqrt{1 - \frac{(c-i)^2}{c^2}} \left(1 - \sqrt{1 - \frac{i^2}{c^2}} \right); \quad \text{where } \lim \xi \geq 1 \quad \text{Ref A8 B1}$$

The balance in A8 relates to the full cycle including the anti-processes.

The cycle is one and the same; the *inflexions* are one and the same. There are no separate cycles and separate *inflexions* for the processes and anti-processes. The space-time of the elementary process contains both.

Processes and anti-processes run in parallel, rather, in consecutive cycles. The generation of quantum impacts represents both.

The cycle is about expansion and collapse.

With reference to B2, the reason/source of the difference is the missing drive –

– *the quantum impulse.*

The electron process drive cannot be finishing fully running out, ending with zero *blue shift* quantum impact. The neutron collapse always starts in fact from a not fully ended electron process status.

In the case of perfect balance, the drive would be:

$$e = \frac{dmc^2}{dt_i \varepsilon_e} \left(1 - \sqrt{1 - \frac{(c-i)^2}{c^2}} \right)$$

With the *entropy* generation, the drive is:

$$e_\xi = \zeta \frac{dmc^2}{dt_i \varepsilon_e} \left(1 - \sqrt{1 - \frac{(c-i)^2}{c^2}} \right)$$

B3

B4

The missing electron process *blue shift* drive is:

$$\lim \Delta_{quantum} = (1 - \zeta) \frac{dmc^2}{dt_i \varepsilon_e} \left(1 - \sqrt{1 - \frac{(c-i)^2}{c^2}} \right) = 0;$$

where $\lim_{0 \rightarrow 1} \zeta = 1$

B5

As $\lim(1 - \zeta) = 0$,

the IQ_q drive of the quantum impulse is: $\lim IQ_q = \lim \frac{c_x^2}{\varepsilon_x} = 0$

B6

The missing electron process *blue shift* drive is the intensity of the *quantum impulse!*

= *energy quantum* or *mass/energy quantum.*

The *Quantum System* has been established by **quantum impulses**, the “instrument” of the generation of the *entropy* of elementary processes.

- ! It is important to note that the *quantum impulse* is the *entropy product* of the cycle.
- The electron process as the drive of the neutron collapse can never end with zero impact, energy/mass equivalence.
- ! The intensity in B4 however is included into the intensity balance of the neutron
- process, therefore the *entropy* generation results in really missing quantum drive.

Entropy is representing a mass/energy intensity capacity of infinite low intensity.

The time system of the infinite low quantum speed corresponds to
The expression under the square root in this case gives quasi indeterminate value.

$$dt_i = \frac{dt_o}{\sqrt{1 - \frac{i^2}{c^2}}}$$

B7

And with reference to B6 $\lim i = c = 0$ as with reference to the $c_x^2 \cdot \varepsilon_x = const$ rule, in the case of $\lim \varepsilon_x = \infty$, $\lim c_x = 0$.

The infinite low value quantum speed of the quantum impulse establishes the space-time of the quantum impulse as of being infinite small, with infinite long duration – independently of the value of the intensity coefficient of the elementary process of its generation.

(Division or multiplication of infinite low values results equally in infinite low value.)

In this way, all generating quantum impulses are the results of similar missing infinite drive values and establish uniform quantum system of equal quantum intensity impact.

The *quantum impulse* is an elementary *blue shift* impact of infinite low intensity.

The generated quantum impulse, (*quantum*), is of infinite low *IQ* quantum drive, with infinite small quantum speed, infinite low intensity, infinite long duration of action and with infinite small space-time.

The difference in the value of the intensity coefficient of elementary processes does not impact the homogeneity of the established quantum system: the intensities of all *quantum impulses* are of infinite low value.

C1

Quantum does not take any quantum impact, as it is the entropy product of the electron process and cannot be in conflict as: $\lim IQ_q = \lim \frac{c_x^2}{\epsilon_x} = 0$
the value of the quantum drive is $\lim IQ_q = 0$.

Quantum impulses, *quantum* transfer all quantum impacts without any modification!

The quantum speed in the quantum system of the *Earth* surface is generated by *gravitation* and is equal to $c = 299,792$ km/sec.

All elementary processes have their own *space-times* in the quantum system.

For example, there is a space-time belonging to the *Uranium* element with quantum speed 378,163 km/sec, to the *Potassium* elementary processes with 308,335 km/sec.

The quantum speed of the *space-time* is not the integrated value of the quantum impulse.

The quantum speed of the quantum system is the operating speed of the quantum communication within the quantum system, represented by the electron process *blue shift* impact of elementary processes.

Quantum impulses (quantum) are not about “moving” quantum impacts.

There is a difference between

- quantum impacts initiated by electron process *blue shifts* and
 - *quantum impulse* impacts, the result of *entropy* generation.
- *Quantum* (quantum impulses) are not in conflict – even having in parallel different quantum speed and intensity values at their generation.
 - The infinite low quantum drive remains infinite low value independently of the original values of the quantum speed and the intensity of their generation.
 - They transfer all *blue shift* impacts without any modification.

Gravitation is *blue shift* impact and, as such, is in conflict with the electron process *blue shift* impact and surplus of the elementary processes of the atmosphere (mainly *Oxygen* and *Nitrogen*, but, in principle, *Helium* and *Hydrogen* processes as well). With the growth of the height above the *Earth* surface the conflict makes the *blue shift* impact of *gravitation* less and less. With the disappearance of the atmosphere the conflict also disappears.

Blue shift conflicts are barriers for the free propagation of elementary *blue shift* impacts. Conflicts eat off the intensity (the energy) of the transferred quantum signals. Therefore, the transfer of *blue shift* quantum signals needs constant energy intensity supply. The higher the intensity (frequency) is, the higher is the loss. Technical quantum signals propagating within the quantum system have *blue shift* conflict with the electron process *blue shift* impact (surplus) of the elementary processes of the atmosphere, mainly with the *Oxygen* and *Nitrogen* processes.

C2

The energy need is: $E = h\nu$

Planck's constant: $h=6.62606957(29)\times 10^{-34}$ Joule · sec ; ν is the frequency of the impact.

Blue shift conflict generates heat, which destroys the quantum impacts and increases intensity.

The *quantum impulse* (quantum) is the least possible quantum impact.

There is no difference whether the generating electron process *blue shift* was impact of high or low value *IQ* drive. There is no difference whether the source of the quantum impulse generation was the *Uranium* process, the *Helium* process or any other processes.

The quantum system is the global presence of quantum impulses of infinite low intensity, infinite low quantum speed and infinite small space-time (infinite long duration).

Elementary processes create their own space-time by the speed value of quantum communication. The intensity corresponds to the quantum speed value.

Quantum systems with equal *quantum impulses* of infinite low intensity equally transfer *blue shift* impact of any quantum speed and intensity. Quantum systems operate by the intensity of the impacting electron process.

Summarising:

1. The *quantum impulse* (quantum) is the entropy product of the elementary processes, the residual impacting capacity. It is of infinite low intensity.
2. The electron process is *blue shift* quantum impact with certain speed value and intensity. The origin of the *blue shift* impact is the expanding electron process at constant speed.
3. The quantum impulses are the ones establishing the quantum system. The quantum system is impacted by electron process *blue shift* impact of certain quantum speed.
4. *Quantum impulses* (quantum) are transferring quantum impacts and signals without any modification. The *blue shift* impact of the electron process is propagating
 - either without any loss of the intensity, if the quantum system is without other impacts; or
 - with the conflicting impact of other electron process *blue shift* impacts; *blue shift* conflict either stops the propagation or results in the loss of the quantum speed value and intensity.

It is important to note that process and anti-process run in parallel and parts of the same cycle. The generation of the *quantum impulse* relates to the cycle as a single impulse.