

EXPLANATION OF THE WEAK GRAVITY CONDITION

In 2024 better explained than previously

The definition of the weak gravity condition is the macroscopic entanglement between the radial and the angular momentum for a sphere of macro mass by the ultra fast and ultra light mediating medium of dark matter. The macroscopic entanglement for gravity is in many aspects equivalent to quantum mechanics of the atoms based on Einstein's special relativity theory combined with Heisenberg's uncertainty condition.

The generation of gravity is controlled by the event horizon expressed in dissipation free electromagnetic energy. All atoms in the macro mass synchronise in a somewhat complex manner to the event state, even if the size of the macro mass exceeds many, many times the event state. Without the existence of the mediating medium of ultra fast and light dark matter to put the atoms into coherence, gravity generation is impossible. It is this medium that separates the atoms in alternating groups, the macro entanglement. In a coarse manner one group has the task of radial inward acceleration while another group converts the radial impulse into rotation energy internally giving the three dimensional sphere spin which is counterbalanced by the inertia rotation of the atoms not contributing to the fast exchange. As a reaction to the inward drive impulses of the light medium, the medium escapes outwardly. Due to the electron alignment of the atoms in coherence, a momentary magnetic state is reached which determines that the medium behaves as a rigid rotor for that group of atoms then converting its energy to another momentary rigid rotor of the other coherent group and so on in repetitive cycle without actual changing the position of the atoms which are only slowly adapting to the fast exchange.

If the exchange between the rigid rotors of the fast medium is always with the same frequency then no transfer of the radial impulses to angular momentum takes place. So the coherent groups (rotors) operate at different frequencies determined by Sacharov's law of induction for the fast dark matter medium. In fact for a solid macro mass with no change of its outward diameter, the angular momentum of the fast medium is in rotation equilibrium to the inertia rotation of the macro mass.

The above simplified description of the weak gravity condition is valid anywhere in our cosmos and valid for stars, planets, moons and comets. Even the super massive black holes comply with the weak gravity condition.

MORE DETAILED DESCRIPTION

As a carrier for gravity the ultra fast dark matter medium can explain gravity generation in neutral charged matter. The explanation is somewhat complicated but mathematically not difficult. In fact by introducing a mediating state between electrons and protons in general, the mediating state is locked into the dark matter medium. So the fast medium is interfering and generating a collective state of coherence for neutral acceleration binding in a time interval all atoms for an internal push to time and in the next interval the relaxation of the inertia state of atoms. So gravity generation is a dynamic process. Any initial condition of the individual atoms, Fermi spin states, is untouched during one cycle. Actually the dynamic cycle gives in the inertia state the force to the atoms directing these inwardly leading to a steady state in which radial work due to the fast interval is converted into tangential angular momentum. This macroscopic exchange between successive fast intervals is controlled by Sacharov's induction law for dark matter. It handles the radial momentum of a sphere radius into a tangential or angular momentum due to entanglement exchange of the fast medium. So the fast medium is not responsible for the compression of matter and only due to the work and angular exchange in entanglement, gaseous matter can slowly contract into either an equilibrium in temperature for the stars or the more cold solid state of atoms in the planets.

This new concept of gravity due to a mediating medium is within the bounds of Newton's laws of physics and does not require a relativistic excessive state for most of the internal of matter. Although one needs to consider degenerate coherent matter to explain the black hole physics. Certainly there should be a restriction for the ultra fast dark matter medium. It can never exceed a momentum of half the c-velocity and therefore the Sacharov's quantum mechanical law of the product between particles subjected to the uncertainty principle and a macro mass contained by square of Planck's mass is absolutely not violated.

In the carrier medium for gravity there are four parameters belonging to the dark matter medium which originally were latched to the hydrogen atom: The Hartree potential, the ionisation energy of 13.6 eV, Lamb's shift and the 21 cm line for rotational spectrum of the hydrogen molecule. It was quite some job to show, these had to be generalised otherwise gravity generation could only be valid for the H atom.

Advice in reading the shown subjects in the following order:

[Explanation of the solar calculations](#) ,**explanation of the solar calculations:**

Proof of the existence of the states of dark matter rigid rotors for the dynamic process of gravity generated at different time intervals.

The text of each subject shows how all kinds of topics are linked.

[Sunwheel drive](#) (*):

Contraction of a cloud of hydrogen gas of solar mass with a diameter of 0.026 lyrs to present-day diameter of 1.4 million km.

[Experiment gravitational levitation:](#)

To prove experimentally the existence of the ultra fast dark matter medium.

[Intermezzo chap 5](#) (*):

Steady state of rotating rigid dark matter rotors in Sun and planets, moons.

[Alternating BH](#) (*):

2017 The LIGO gravity wave interferometer shows $\frac{1}{2} c$ contraction of colliding BH's.

[Intermezzo chap 7](#) (*):

Calculations of Sun's contraction into degenerate matter. and follow up (2024)

[Quadratic coordinate interval](#) (*):

The 4D time space interval with respect to the 3D phase space of time. Pyramid model

[Derivation Qubit universe](#) (*) and [Substitution angle](#) (*) or (*) meaning "more for physicists".

Calculation of binary states for the qubit universe and another subject.

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