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QUANTIC GRAVITY EVTD^2 AND PHOTONIC GRAVITATIONAL FIELDS: EXISTENCE OF MINI BLACK HOLES TO EXPLAIN PHENOMENA. THE SOLAR SYSTEM IS A DATABASE, PART II: THE SUN AND THE FOUR PLANETS BEYOND THE ASTEROID BELT

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Abstract: *This work is a continuation of part I of the [1] published in this journal.. In this paper are proposed suite and additions to the assumptions of [2-3], in quantum gravity EVTD^2 [4-11], relatively to the quantum photonic gravity potential energy. The existence of a mini black hole, at the zero resulting potential, is suggested to explain physically the gravitation between two masses. In EVTD^2 the gravitational field is quantified into photons h so, this leads to opportunities for destructive interference in the black hole where conditions are well suited for this [12]. The paper [1] has shown, using data from the solar system that the masses photonic flows arriving at the black hole were in the same report as the masses or their potential accelerations. This induced some correlations for the four planets closest to the Sun [1]. Here for part II, in a consistent following, taking into account the four planets beyond the asteroid belt and finally following the news special spatial conditions (asteroid belt) correlations of part I are also highlighted for Jupiter, Saturn, Uranus and Neptune.*

Key words: *Quantic potential, Quantic compacting, Quantic Gravity EVTD^2, Quantic Substratum, EVTD^2 entities theory.*

1. INTRODUCTION

Following calculations in [1] and derived conclusions, very relevant to the possible existence of a mini black hole in the zero resulting potential (relative to two masses), it guided the same approach for the other four planets that are beyond the asteroid belt. Also, this provides presumptions of the possible existence of black holes at the center of masses of enough symmetrical form [13].

The quanta energy levels, took into account for the study of quantic gravity in EVTD^2, are calibrated from Planck quantum *h*. This was initiated by considering the "black body" emission of bodies in space-time due to their intrinsic temperature [12-14], which structure quantic gravitational fields in quanta *h*.

All this would be, for the entire universe, a relatively uniform coherent background till any condensed matter body just add, in a defined area, a special energy concentration ($E=mc^2$) [15]. With regard to the new physics EVTD^2: in this Coherent background would exist a *substrate* of something that has been called here *Substratum* [13-14, 16-21] and, which would give this diffuse energy by its vibratory animation of EMW. Even the demonstration $E = mc^2$, based on EVTD^2, verifies [15] without postulate that mass is an energy realization and a concentration of this equivalence: ***the energy (in mechanics) is a potentiality to do mechanical work***. The *Substratum* can be correlated to current notions of *dark energy* and *dark matter* as being an identical and common substrate but with quite different densities and subject respectively to positive and negative pressures [20-21] in space.

According to our knowledge or estimations relative to the celestial body that compose the solar system, it is a good database (distances inter masses, masses themselves and their

diameters, their various temperatures, equivalent black body, the albedos, the positions of the respective resulting potentials with the Sun etc.). This does allow an assortment of values considered likely for us to engage in the calculations and estimates that will follow in this part II.

2. INITIALS COMMON BASES FOR THE FOUR DUETS - SUN AND EACH OF THE PLANETS: JUPITER, SATURN, URANUS AND NEPTUNE

As this has been done in the work [2-3] it is easy to calculate by Newton's relationship, if resulting potential *O*, are known. But more, from the relationship and results arises that we can deduce that the report of accelerations (ideally potential for imagined cases of situations of isolation) of these two masses towards the other is normally equal with the square of distances of these masses to *O* ratio. We therefore here recall the relationship (1) which has already been mentioned in [1] OM_1 and OM_2 being the distances from the masses to their point *O*, it results:

$$F_G = m_1 g_1 = m_2 g_2 = \frac{G \cdot m_1 m_2}{d^2},$$
$$\left(\frac{OM_1}{OM_2}\right) = \frac{g_2}{g_1} = \frac{m_1}{m_2}. \qquad (1)$$

In the EVTD^2 entities theory quantum gravitation require gravitational fields structured intermittently through electromagnetic quanta irradiated by the surfaces of the masses considered pseudo black bodies if their equivalent black body temperatures are sometimes known. So from there, we can take into account only the geometrical quantities characterizing the duo studied masses and their available temperatures. But also of the emissivity coefficients of surfaces, albedos of the atmospheres (if they are not negligible) for each photonic flow being irradiated by each of the masses will be able finally to the area of *O* (zero resulting potential) for overlapping and or interfere with the photonic flow coming in the opposite direction since the mass face-to-face.

For example, this *double receiver*, will be conveniently, in *O*, on a surface of *1* m^2, normal to the gravity centers axis. It is a particularly remarkable point, by ***this quantic gravity EVTD^2, because lengths of levels, respective to each of the masses, containing a quantum of photonic energy (here gravitational) are in O of the same dimension*** [12]. For example, for Earth-Moon lengths are reciprocally: $1.989896 \cdot 10^{-31}$ m [14], while in the case of the duo Sun-Earth the common value calculated in a similar way was: $1.1131327 \cdot 10^{-31}$ m. It is then necessary to deduce that each of the quanta arriving in *O* from each of the masses has, in a way, the same wavelength (identical lengths of the previous levels for each of these photons *h*). This is absolutely essential to accept that there are ideal conditions for interfering or compacting in the mini black hole, which would be in O. ***This mini black hole would thus realize all properties to be the 'engine' in function to ensure the gravitational attraction by himself, what would then be no more the essential role of the two concerned masses***. *The masses would furnish only the gravitational fields by their photonic emissions h·f of equivalent black body*.

In addition, ***this would allow to correlate the compaction potentials at the black holes levels in report to the considered energy quanta with masses accelerations calculated for ideal conditions reported above***. This is got with a pretty good probability in the results of the common approach for different cases. These compaction potentials of *both irradiated photonic flow, calculated, will be prioritized by their values in energy following their emitted spectral distributions*. *UV* rays are more energetic than the *IR* for example, so it will be considered. Indeed, for the compaction it is recognized that the photon energy quanta must carry a pulse, the EVTD^2 theory is in perfect agreement. In fact, in EVTD^2, photons are assimilated to shock pulse of electromagnetic vectors on the cubic entities, it therefore follows that the photon is spreading gradually in this way. Thus it is an impulse $p = h/\lambda$ or, more, $p = h \cdot f$. In SRT the relation between

the energy E and the photon's impulsion p of the zero mass is: $E = c \cdot p$, hence $E = c \cdot h \cdot f$.

This is a setting of understanding ***for compaction performance of one flow relative to the other and thus inducing different gravity acceleration levels, caused by the relative attractions of mini black hole,*** which should check those obtained by the relationship of Newton. For equal impulses of opposite directions, there will be complete annihilation (destructive interference) while it will be partial for different levels of impulse. This means a little more opposite meetings and time to get to the complete annihilation of a high energy photon. This whole process is probably what happens in a black hole and so it seems entirely correlate *the presumptions of a mini black hole existence in the area of the zero resulting potential in gravity*.

We will follow here the same procedure that was used in [1] for calculi on the masses coupled respectively Sun duos with Jupiter, Saturn, Uranus and Neptune.

3. SUN – JUPITER DUO GEOMETRICAL QUANTITIES DETERMINATION

The Sun-Jupiter duo has an average admitted distance inter gravity centers of $778412{,}027.10^6$ m, Jupiter mass is given of $1{,}8986.10^{27}$ Kg, while in reminder those of Sun is $1.9891 \cdot 10^{30}$ Kg. With equality of the attraction forces and its common value by the Newton's relationship it is determined, as in [12] the two distances of these masses to their zero resulting potential, noted here by O_5. Respectively are found the distances from Sun to O_5 as: SO_5 = 755083703620 m and from Jupiter, of JuO_5 = 23328323380 m. More, we will use each body's ray (bodies being considered as spherical): the ray of Jupiter is about 69911 km while those of emitting Sun was indicated in part I of $6{,}978.10^8$, to take also into account its photosphere. So here, for the calculations, we will take again, an average temperature of black body which was previously estimated at around 6100°K for the emitting Sun area taking into account the very high temperatures which are admitted in the chromosphere, the Crown and the heliosphere. Regarding the global photonic energy irradiated by the Sun surface, is to take the same calculations and results in part I [1] in order to ensure a certain continuity in all these steps. Thus, $E_{Sphere\ Sun}$ is the Sun global radiated photonic energy, at the equivalent temperature of *6100°K*:

$$E_{Sphere\ Sun} = \sigma T^4 \cdot 4\pi (6.978)^2 \cdot 10^{16} =$$
$$= 5.6704 \cdot 10^{-8} \cdot 6100^4 \cdot 4\pi (6.978)^2 \cdot 10^{16} =$$
$$= 4.804020258616771738 \cdot 10^{26} \text{ W.}$$

Still, this value will be used for the other three duos Sun-Saturn, Sun-Uranus and Neptune-Sun. In the same way and with the intrinsic data at Jupiter we can do similar determination of its global photonic energy from surface. Thus, in the presumption of the blackbody balance temperature, estimated and given to 110°K for the emitting surface of the giant gas Jupiter, we get $E_{Sphere\ Ju}$ (global photonic energy irradiated by the Jupiter surface):

$$E_{Sphere\ Ju} = T_{Ju}^4 \cdot 4\pi (69.911)^2 \cdot 10^{12} =$$
$$= 3482688151914 \cdot 10^4 \cdot 110^4 =$$
$$= 50.9900372318 \cdot 10^{16} \text{ W.}$$

For needs of good correlation and compliance, to determine the two flows coming respectively from the Sun and Jupiter and arriving on *1 m^2* in O_5, each of the incidents stars global flow on each surrounding spheres is considered (i.e., in the first hypothesis without absorption between the two spheres). The rays of these sphere are, respectively, SO_5 and JuO_5. Thus these two opposite incidents flows per m^2 incident on O_5 and inverse spread on the axis of the gravity centers for the Sun-Jupiter duo. We shall use the next relationship to calculate the flow on m^2 and coming from Sun:

$$E_{\substack{Sphere \\ SO_5/m^2}} = \frac{4.804020258616771738 \cdot 10^{26}}{4\pi(SO)^2} =$$

$$= \frac{4.804020258616771738 \cdot 10^{26}}{4\pi(755083703620)^2} = 67.051 \text{ W/m}^2.$$

For the flow on m^2 and coming from Jupiter:

$$E_{\substack{Sphere \\ JuO_5/m^2}} = \frac{50.99003723218 \cdot 10^{16}}{4\pi(23328323380)^2} =$$

$$= 7.456 \text{ W/m}^2.$$

More, like in [1], it is surely necessary to quantify in the same way the ratio of the considered flows in O_5 without omitting to introduce, by Wien's law, the proportionality of their energy levels: i.e. a way to quantify the power of annihilation of a more energizing flow on a less opposing one. The use of Wien law seems to be a correct criterion in this sense. So, for the equivalent black body temperature of the Sun estimated to 6100°K [1] are obtained, following the law of Wien, the wavelength of the maximum of the Sun spectrum and for Jupiter (110°K) in the same way:

$$\lambda_{S\,max} = \frac{2.898 \cdot 10^{-3}}{6100} = 0.475 \cdot 10^{-6} \text{ m};$$

$$\lambda_{Ju\,max} = \frac{2.898 \cdot 10^{-3}}{110} = 26.345 \cdot 10^{-6} \text{ m}.$$

The photon energy is given by ($E=h \cdot f$) and, knowing that there is the ratio between frequencies and wavelength as:

$$\frac{f_{S\,max}}{f_{Ju\,max}} = \frac{\lambda_{Ju\,max}}{\lambda_{S\,max}} = \frac{26.345 \cdot 10^{-6}}{0.475 \cdot 10^{-6}} = 55.464.$$

So in this case, we get an energy efficiency coefficient for compacting between photonic energies of (*55.464*) more for the spectral distribution of the radiation from the Sun. We must multiply (as in the part I) the flow in O_5 from the Sun since it is he who has, among other things, the more *UV*.

So, the value of the Sun flow, per m^2, in energy equivalence can be represented, in O_5, by: $67.051 \cdot 55.464 = 3719 \text{ W/m}^2$, according to theory, which was initially developed for gravity that would be the consequence of a photons compaction from two equivalents black bodies, at certain temperatures, (the considered masses) in a mini black hole, here in O_5.

So we are trying to verify that the report of the respective equivalent flows in O_5 is very close to the ratio of the accelerations of the two celestial bodies in a thought experiment where they would be isolated in space. Knowing that the report of accelerations is also identical in value to the report of the considered masses (Newton relationship (1) detailed in part I), wherefrom:

$$E_{\substack{Sphere \\ SO_5/m^2}} / E_{\substack{Sphere \\ JuO_5/m^2}} = \frac{3719}{7.456 \cdot 10^{-5}} = 498.78 \cdot 10^5$$

$$\frac{m_S}{m_{Ju}} = \frac{1.9891 \cdot 10^{30}}{1.8986 \cdot 10^{27}} = 1047 = \frac{g_{Ju}}{g_S}.$$

By this first calculation the result found here is very far from the value of the respective ratio of accelerations and masses: it is far too high. We are no more in the context of the values calculated in part I where we get very good correspondences. That is to say that the flow from the Sun, as it was here estimated is too large compared to the flow of Jupiter that could be, on the other hand, may be underestimated. But may be missing some data that Jupiter is the most difficult to treat (among the other three: Saturn, Uranus, and Neptune) because it is the closest planet to the solar system's asteroid belt. This probably introduces some features not taken into account at the moment. So let's consider the other three pairs and we'll come back to the case of Jupiter then in the light of other cases. This is what has been practiced similarly to the case of Mercury studied in part I.

4. GEOMETRICAL QUANTITIES AND ENERGETIC FLOWS DETERMINATION FOR THE THREE DUOS: SUN WITH SATURN, URANUS AMD NEPTUNE

The zero resulting potential of duo Sun-Saturn is named O_6, for Sun-Uranus it will be

O_7 and, for Sun-Neptune, O_8. By calculations, similar to those made for the previous five planets ([1] and Jupiter), the distances of these duos (Sun-planets) to their zero resulting potential are determined.

For Saturn the mass is $5.6846\cdot 10^{26}$ Kg, the ray has the value of 58232 Km and, the average distance to Sun is estimated at 1429394069 Km. Hence, the distances SaO_6 =23762554964 m and SO_6 =1405631514036 m. For the flow in O_6 and the average temperature of the Saturn soil of about 93°K, it is to determine the surface global flow and, respectively, the flow on square meter arriving from Saturn is:

$$E_{Sphere\,Sa} = T_{Sa}^4 \cdot 4\pi(58.232)^2 \cdot 10^{12} =$$
$$= 241627.84027932 \cdot 10^4 \cdot 93^4 =$$
$$= 18.075019181732 \cdot 10^{16} \text{ W}.$$

while the flow from Sun, in the same O_6 is:

$$E_{\substack{Sphere \\ SO_6/m^2}} = \frac{4.804020258616771\cdot 10^{26}}{4\pi(SO_6)^2} =$$
$$= \frac{4.804020258616771\cdot 10^{26}}{4\pi(1405631514036)^2} = 19.34871 \text{ W/m}^2.$$

The ratio of spectral frequencies distribution maximum, according to the Wien's law is here found equal to *65.6*. Hence:

$$E_{\substack{Sphere \\ SO_6/m^2}} / E_{\substack{Sphere \\ SaO_6/m^2}} = \frac{19.34871\cdot 65.6}{2.54734\cdot 10^{-5}} =$$
$$= 498.274\cdot 10^5;$$
$$\frac{m_S}{m_{Sa}} = \frac{1.9891\cdot 10^{30}}{5.6846\cdot 10^{26}} = 3498 = \frac{g_{Sa}}{g_S}.$$

Again, we see that this first calculation does not match to expected for Sun-Saturn type.

Regarding the Sun-Uranus duo data are: Sun-Uranus distance is 2870658186 Km, Uranus mass of $8.6810.10^{25}\cdot$Kg and, its ray 25560 Km, while its balance black body temperature is indicated of about 57°K. The respective distances to point O_7 are: SO_7 = 2851818293518 m and UrO_7 =18839892481 m. The results for the flows arriving respectively from Uranus and Sun are:

$$E_{Sphere\,Ur} = \sigma T_{Ur}^4 \cdot 4\pi(25.56)^2 \cdot 10^{12} =$$
$$= 46552.7412 \cdot 10^4 \cdot 57^4 =$$
$$= 4.914107825553 \cdot 10^{15} \text{ W};$$
$$E_{Sphere\,Ur/m^2} = 1.1017371 \cdot 10^{-5} \text{ W/m}^2.$$

The flow Sun radiation, in the same O_6 is:

$$E_{Sphere\,SO_t/m^2} = 4.700578 \text{ W/m}^2.$$

The wavelength of Uranus spectral distribution maximum, at 57°K, is $50.842\cdot 10^{-6}$ m. This makes a report of 107.036 times more energizing for the solar flux compared to that of Uranus. We get in the end, for the energizing flow ratio, in a comparable way, the value of:

$$E_{\substack{Sphere \\ SO_7/m^2}} / E_{\substack{Sphere \\ UrO_7/m^2}} = \frac{4.700578\cdot 107.036}{1.1017371\cdot 10^{-5}} =$$
$$= 456.67\cdot 10^5;$$
$$\frac{m_S}{m_{Ur}} = \frac{1.9891\cdot 10^{30}}{5.9736\cdot 10^{24}} = 22869 = \frac{g_{Ur}}{g_S}.$$

Still, there is no correlation in this case Sun-Uranus.

Regarding the Sun-Neptune duo data are: the average distance Sun-Neptune is given as 503443661 Km. Neptune mass is $1.0243\cdot 10^{26}$ Kg, its ray 24622 Km and, the average temperature of about 47°K. The zero resulting potential is here indicated as O_8, with the respective distances NeO_8 = 32086668169 m and SO_8 =4471356992831 m, to Neptune and to Sun.

The flow in O_8 arriving respectively from Neptune and Sun results, for a given equivalent black body temperature of 47°K at Neptune surface are:

$$E_{SphNe} = 5.6704 \cdot 10^{-8} \cdot 47^4 \cdot 4\pi(34.622)^2 \cdot 10^{12} =$$
$$= 2.1079565053 \cdot 10^{15} \text{ W};$$
$$E_{SphNeO_8/m^2} = 1.629305545 \cdot 10^{-7} \text{ W/m}^2;$$
$$E_{SphSun} = 4.80402025861677138 \cdot 10^{26} \text{ W};$$
$$E_{SphSO_8/m^2} = \frac{4.80402025861677138 \cdot 10^{26}}{4\pi \cdot 4471356992831} =$$
$$= 1.912125 \text{ W/m}^2;$$

The wavelength of Neptune spectral distribution maximum, at 47°K, is $61.66 \cdot 10^{-6}$ m. This makes a report of 129.8 times more energizing for the solar flux compared to that of Neptune. We get in the end, for the energizing flow ratio, in a comparable way, the value of:

$$E_{Sphere\ SO_8/m^2} / E_{Sphere\ NeO_8/m^2} = \frac{1.812125 \cdot 129.8}{1.6293 \cdot 10^{-7}} =$$
$$= 152.33 \cdot 10^7;$$
$$\frac{m_S}{m_{Ne}} = \frac{1.9891 \cdot 10^{30}}{6.4185 \cdot 10^{23}} = 19314 = \frac{g_{Me}}{g_S}.$$

This shows in the four cases studied here that there is no correlations between the reports concerned and the corresponding masses or potential acceleration. It is no longer in the matches found in part I of this work [1]. It is likely that these four planets-specific circumstances were not, probably, taken into account in these early calculations.

5. POSSIBLE IMPACTS OF THE ASTEROIDS BELT BETWEEN THE SUN AND THE STUDIED PLANETS

The solar system's asteroid belt lies between 2 and 4 au from the Sun, thus it is 2 au thickness. Since 2012 the au is equal to 149597870700 m. Elements of condensed matter of different dimensions, dot this crown that makes a separation between the first four planets closest to the Sun and the other four beyond this belt. The thickness and the fine particles (dust) and other masses of space (asteroids) must cause absorption of electromagnetic rays that cross and stops them and, this with a very high absorption factor. Even the transmission factor is surely very low; it can be estimated, for example about 0.1. So for the approaches to the determinations of the photonic flows from the Sun and arriving in O_5, O_6, O_7 and O_8 it is necessary to determine the solar flux at the exit of the asteroid belt. It is positioned at the 4 au distance from the Sun: $4 \cdot 149597870700$ m = 598391482800 m.

So, is simply to determine, with the factor of transmission (0.1), the solar flux per m^2 just after the belt on the sphere, i.e. *Sphere S4*au Sun-centered, as the global flux on the emitting surface of the Sun was already determined:

$$E_{Sphere\ S4au/m^2} = \frac{4.804020258616771 \cdot 10^{26} \cdot 0.1}{4\pi(S4au)^2} =$$
$$= \frac{4.804020258616771 \cdot 10^{25}}{4\pi(598391482800)^2} = 10.67638 \text{ W/m}^2.$$

Then each of the solar flow, transmitted to different zero results, to calculate what happens intrinsically by m^2 on the already used four spheres. For example, for O_5, will be the next relation

$$E_{Sphere\ SO_5/m^2} = 10.67638 \cdot \frac{598391482800^2}{(SO_5)^2} =$$
$$= 6.7051 \text{ W/m}^2.$$

This last result is found above tenth of above value, which did not take into account this reduced transmission of the asteroid belt. The fact that Jupiter is very close beyond it, all as well as the point O_5 influence the observations from the Earth producing errors because of the radiation bad transmission through the belt. The density in solid and opaque elements is increased in front of Jupiter by the gravitational force of this planet in close proximity. More, this has as consequence the reduction of electromagnetic waves transmission. On the solar radiation, in this area, this may reduce it again in half, wherefrom the taking into account of a *0.5* in addition to the *0.1* factor already used. Besides, the mentioned estimated balance black body temperatures have values

significantly under-estimated, may be more than double those shown. If a temperature of 260°K for Jupiter is considered and by the calculations are repeated again we can arrive at:

$$E_{\substack{Sphere \\ Ju_5 / m^2}} = 2.32718 \cdot 10^{-3}\ \mathrm{W/m^2},$$

what gives finally for the Sun-Jupiter duo:

$$E_{\substack{Sphere \\ SO_5 / m^2}} / E_{\substack{Sphere \\ JuO_5 / m^2}} = \frac{6.7051 \cdot 0.5}{2.32718 \cdot 10^{-3}} = 1440;$$

$$\frac{m_S}{m_{Ju}} = \frac{1.9891 \cdot 10^{30}}{1.8986 \cdot 10^{27}} = 1047 = \frac{g_{Ju}}{g_S}.$$

We could try to adjust to the best correspondence between the reports, but the data are not reliable enough. The correlation is, all in all, acceptable in these circumstances regarding Sun-Jupiter.

We get the taking into account of the transmission factor of 0.1 for the new values of the solar flux in O_6, O_7 and O_8. Also because of the very high absorption during the asteroid belt crossing, it is likely to be the most energizing radiation that are disrupted and absorbed very consistently: so the *UV* in priority which then changes the spectral distribution to the much less energizing *IR*. This suggests we can then ignore the use of the higher energy factor which had been so far used in previous calculations. These two specific circumstances took into account here seems to undervalue, adequately, the values estimated and calculated for solar flow reaching zero resulting potentials.

On the other hand, most of the data about planets that we dispose are the result of observations and measures (sometimes estimated) that are necessarily subject to the vision and the determinations through the asteroid belt that disrupts and modifies the spectral compositions of intrinsic radiation at these planets, including that pass through to the Earth. We're right in thinking that these data, bases of observations, are indicated in much smaller values due to the high absorption of this thick belt between the Earth and the four planets who are beyond.

Regarding the Sun-Saturn duo we shall try a somewhat similar approach in taking into account the effects of the asteroids belt on the adjustment of the data. Precisely we take the balance black body temperature increased up to *200°K*. We then get new values of flows in O_6 from Saturn, on one hand and on the other hand, the flow per m^2 from the Sun:

$$E_{\substack{Sphere \\ SaO_6 / m^2}} = 5.448423 \cdot 10^{-4}\ \mathrm{W/m^2};$$

$$E_{\substack{Sphere \\ SO_6 / m^2}} = 19.34871 \cdot 0.1 = 1.934871\ \mathrm{W/m^2}.$$

These new values are used in the final relationship and gives:

$$E_{\substack{Sphere \\ SO_6 / m^2}} / E_{\substack{Sphere \\ SaO_6 / m^2}} = \frac{1.934871}{5.448423 \cdot 10^{-4}} = 3551;$$

$$\frac{m_S}{m_{Sa}} = \frac{1.9891 \cdot 10^{30}}{5.6846 \cdot 10^{26}} = 3498 = \frac{g_{Sa}}{g_S},$$

which gives a very decent searched correlation for the Sun-Saturn duo.

Regarding the Sun-Uranus duo we shall try the same type of approach by taking into account the effects of the asteroid belt on the adjustment of the temperature increasing. Precisely we take the balance black body temperature increased up to *160°K*. We then get a new value for the flow in O_7 from Uranus and for the solar flow the same decrease due to the 0.1 factor:

$$E_{\substack{Sphere \\ UrO_7 / m^2}} = 2.16423063 \cdot 10^{-5}\ \mathrm{W/m^2};$$

$$E_{\substack{Sphere \\ SO_7 / m^2}} = 4.700578 \cdot 0.1 = 0.4700578\ \mathrm{W/m^2}.$$

These new values are used in the flow report, we get:

$$E_{Sphere\ SO_7/m^2} / E_{Sphere\ UrO_7/m^2} = \frac{0.4700578}{1.16423063 \cdot 10^{-5}} = 31720;$$

$$\frac{m_S}{m_{Ur}} = \frac{1.9891 \cdot 10^{30}}{5.9736 \cdot 10^{24}} = 22869 = \frac{g_{Ur}}{g_S}.$$

Again in the continuity of some variations of the same type of parameter: the globally changed planets temperatures from the simple to more than double bring the results in a suitable correlation for the Sun-Uranus duo.

Finally, the case revisited of the duo Sun-Neptune in the same way as the three previous cases takes into account the transmission factor of *0.1* through the asteroids belt for the solar radiation arriving in O_8. In addition, the balance black body temperature is increased from 47°K to 130 K°. These new estimates lead to the following results, which will be introduced in the relationship of the energy flow ratio:

$$E_{Sphere\ SO_8/m^2} = 1.912125 \cdot 0.1 = 0.1913135\ \mathrm{W/m^2};$$

$$E_{Sphere\ NeO_8/m^2} = 9.5364 \cdot 10^{-6}\ \mathrm{W/m^2};$$

$$E_{Sphere\ SO_8/m^2} / E_{Sphere\ NeO_8/m^2} = \frac{0.1913135}{9.5364 \cdot 10^{-6}} 20050;$$

$$\frac{m_S}{m_{Ne}} = \frac{1.9891 \cdot 10^{30}}{6.4185 \cdot 10^{23}} = 19314 = \frac{g_{Ne}}{g_S}.$$

The correlation between the values of ratios is very good and goes into compliance with the last calculations modes for these four planets beyond the asteroid belt. As had been the case for the four planets closest to the Sun in [1].

In the theories of EVTD[2] entities, many suggestions guide the probability that there would be a black hole more or less powerful in each mass, as this is plausible in the zero resulting potential between two masses thus ensuring the gravity (among other current works).

So further, it would be sure that Uranus and Neptune, which are of equivalent masses would have very similar accredited average temperatures (*57°K* and *47°K*). Contrarily, for those who are at great distances to Earth, there is contradiction because their central black holes must be at least as powerful as that of the Earth.

Temperatures of black body balance that were considered for these two planets (with more mass and larger than the planet Earth) should be more neighbor, despite their distance from the "radiator" Sun, with that of the Earth (*250°K*) in [1].

Therefore, the estimations were aligned only using temperatures without wanting to use other parameters such as albedo or emissivity of the soil. Previous suitable results are reported in Table 1.

Table 1.

Synthesis of the intermediate results and equivalent flows from the Sun and planets to the respective zero resulting potential. The calculated R_a (flows' ratio) for each of four duos Sun and a planet are compared in correlation with masses ratios and with respective gravitational accelerations.

Duos Sun (*S*) – Planet (*P*)	Equivalent flows in zero resulting potential from: W/m^2		Flows ratio $R_a = \frac{F_S}{F_P}$	$\frac{m_S}{m_P} = \frac{g_P}{g_S}$
	Sun (F_S)	Planets (F_P)		
Soleil -Jupiter	3.35255	$2.32718 \cdot 10^{-3}$	1440	1047
Soleil -Saturn	1.934871	$5.448423 \cdot 10^{-4}$	3551	3498
Soleil - Uranus	0.4700578	$2.16423063 \cdot 10^{-5}$	21720	22869
Soleil - Neptune	0.1912125	$9.5364 \cdot 10^{-6}$	20050	19314

4. CONCLUSION

It seems relevant, as a result of correlations derived from these two sets of calculations (part I and II), to pretend the most probably existence of a mini black hole in each of the zero resulting potential between all pairs of masses.

These are various work compacting and spacing of EMW, omnipresent throughout space-time, to induce these different phenomena on and around the zero resulting potential. It is proved that it is not, for example,

the two masses who are attracted to each other but they are put into individualized approaches at different speeds (for non-equal masses), towards a common point which is their zero resulting potential.

In addition it is not impossible, as has been suggested, that there is also a mini black hole in each of the masses with a certain symmetry, which would give one (other than nuclear) explanation for high temperatures in the cores of the planets, for example. In other words, what is the "engine"' that gives as much energy converted into heat in the centers of the planets.

All this, once more, strongly oriented and especially for the credibility of the physical entities EVTD^2-based. Finally is to note, according to the correlations, that the taking into account of a photonic gravitational field, as it was used here, allows to go back and get the results for gravity described by the Newton relationship. But the major difference introduced here by these photonic fields for gravity, is that unlike Newton and even for general relativity the inter masses space-time is taken into account: not what the atmospheres of the stars, of the asteroid belt, magnetic fields etc. In this context the masses are considered in their natural environments and are no more idealized objects, somehow, disconnected from their own real environmental conditions and, finally, the gravitational field is originated electromagnetic waves irradiated by pseudo black bodies.

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Gravitația cuantică EVTD² și câmpurile gravitaționale fotonice: existența unor mini găuri negre în explicarea fenomenelor. Sistemul Solar constituie o bază de date, partea a II-a: Soarele și cele patru planete de dincolo de centura de asteroizi

Rezumat: Lucrarea este continuarea părții I [1] publicată în această revistă. În această lucrare sunt propuse prelungiri și ipoteze ale lucrărilor [2-3] despre gravitația cuantică EVTD² [4-11], relativ la energia potențială cuantică, fotonică. Existența unei mini găuri negre în potențialul rezultant zero este sugerată pentru explicarea fenomenologică a gravitației dintre două corpuri. În EVTD², câmpul gravitațional este cuantificat în fotoni *h*, deci acesta induce posibile interferențe destructive, mai ales în gaura neagră, unde conjuncturile sunt propice pentru aceasta [12]. Lucrarea [1] a arătat, folosind date despre Sistemul Solar că fluxurile fotonice ale maselor, sosind la gaura neagră se găsesc în același raport ca masele sau accelerațiile lor gravitaționale. Aceasta a permis anumite corelații pentru cele patru planete apropiate de Soare [1]. Aici, în partea a II-a, într-o continuare conformă, sunt luate în considerare cele patru planete situate dincolo de centura de asteroizi și, în final, în conformitate cu noile conjuncturi spațiale particulare (centura de asteroizi), sunt evidențiate corelațiile din partea I pentru Jupiter, Saturn, Uranus și Neptun.

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