The Planck Interaction

The force relation of all black holes in this universe is in every case equivalent, at exactly 1/4th of the Planck force. This value 3.02585e^{43}N is important for having a direct connection with the universal frame.

So, one might ask, "How, and why"?

The Schwarzschild force (see Force Parameter) required to retain electromagnetic energy, as just mentioned, has an interesting relation; it is exactly 1/4 of the Planck force.

$$F_P = \frac{E_P^2}{\lambda\!\!\!^{-}_P} = \frac{\hbar}{\lambda\!\!\!^{-}_P t_P} = \frac{c^4}{G} = 4F_{Sch}$$

The Planck particle, as is well known, exists within its own Schwartzchild radius, a black hole. The dynamics of this are interesting.

$$l_P^2 = \lambda\!\!\!^{-2}_P = \frac{\lambda\!\!\!^{-\prime}_{sw}\lambda\!\!\!^{-\prime}}{2}$$

Where $l_P^2 = \lambda\!\!\!^{-2}_P$ equals the Planck length^2; $\lambda\!\!\!^{-\prime}_{sw}$equals the Schwarzschild radius; and $\lambda\!\!\!^{-\prime}$equals the de Broglie radius of the particle.

This general equilibrium is achieved for any mass whatsoever; all things are in a state of fugue. Yet at the Planckian level, or at the quantum field the relationship takes on special meaning.

Consider two Planck energy states, if you were in a Planck particle, or within the Lorentz space (see Fugue document), you would see your event horizon expanding with your energy, or contracted by half, if in relation to your ground state. The force (required in both states), to hold you together would be the same gravitational Schwartzchild force (F_{Sc}), which is ¼ of the Planck force.

(The reason for this limit is that it (whatever mass it contains) is engulfed in its own black hole, thus rendering it impossible to add to attractive force. Rather, the envelope expands in accordance with Berkenstein's' law. It is here that enters the constant α).

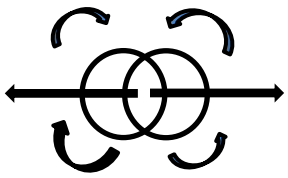
It turns out that the universal constant alpha (α), (the source of all similarity), determines the mass of the particles involved, this of course includes the Planck mass of which we are talking. This Planck interaction also serves as the universal symmetric source for the fine structure constant α, and of charge (as explained in Fugue).

Item	Mass (kg)	Schwartzchild radius (m)	de Broglie Radius λ (m)	Columb force at Sch radius	Columb force at dB radius	Schwartzchild Force (FSc)	Planck Force (Fpl)	1/2 Planck Force (Fpl)	→	Results
1/2 Planck	1.088E-08	1.616E-35	3.232E-35	8.832E+41	2.208E+41	3.026E+43	1.210E+44	→	→	7.297E-03
Planck	2.177E-08	3.232E-35	1.616E-35	2.208E+41	8.832E+41	3.026E+43	1.210E+44	→	→	7.297E-03
.707 Planck	1.539E-08	2.286E-35	2.286E-35	4.416E+41	4.416E+41	3.026E+43	1.210E+44	6.052E+43	→	7.297E-03

Table 1. A color coded view of a new (and universal) alpha relationship.

The particle (figure 1, and table 1) alternates at the Planck frequency, the Columbic force at a Planck particle's Schwartzchild radius ($2l_P$) divided by the Schwartzchild force ($1/4^{th}$ of the Planck force) = α

This is also true for the Columbic force at a ½ Planck particle's (ground state) at its de Broglie radius.



The Planck Interaction

Figure 1

This model postulates that at an "ever-continuing moment of creation" a Planck quantity generates a de Broglie/Planck radius, **and** a Schwarzschild radius (at two Planck lengths or radii), or in Planck time, the Planck quantity (its energy ground state) creates a de Broglie radius at two Planck radii, while its Schwarzschild radius goes to one Planck length (or radius). The cycle repeats as time itself is created, thus acting as a universal source for the quantum fluctuation.

The quantum field

At this point, we consider this universal quantum background. Uniquely at the Planck level, along with the general appearance of expansion (when viewed from within each "particle"), other localized gravitational influences (being equivalent in energy and form), are evidencing their own interactions, and the acting force in all cases being equivalent to perimeter forces, a field is formed, the Planck Field where charge separation, pair production, and quantization occur across a range of frequencies according to the Heisenberg uncertainty principle. The equivalent of this field is the Lorentz space, which is discussed in the Fugue document at this site. The essential effect of this field is the quantization of mass and time; it begins at the Planck frequency, or at its implied mass, (which acts as a form of pilot wave), and includes every particle and incident mass, unto the stars and galaxies. Under the influence of this continuing flight towards the Planck/Lorentz field, charge separation occurs.

Charge Separation

This interior Planck field (or Lorentz space) is effectively determined by the alpha constant (α), as shown above. The following mass (m_f) differences between the particles are determined quantically as briefly described in the "Is the Universe in Equilibrium?" discourse. Essentially, α delineates the balance between gravitational attraction and electrostatic attraction and repulsion.

$$\alpha = \frac{k_0 e^2}{G m_P^2}$$

α is equal to the ratio of the general Columbic constant, divided by G times the Planck mass^2.

This then is the primary resonance field fluctuation interaction, at one Planck radius, the Planck interaction at the Planck length/radius therefore yields also the Planck force, which is equal to 4 Schwarzschild force (as taken at the Schwartzchild radius).

$$F_{pl} = \frac{G {m_p}^2}{{\lambda\!\!\!^{-}_p}^2} = \frac{\hbar c}{{\lambda\!\!\!^{-}_p}^2} = \frac{k_0 e^2 \alpha^{-1}}{{\lambda\!\!\!^{-}_p}^2} = \frac{4G {m_p}^2}{{\lambda\!\!\!^{-}_{Sw}}^2}$$

Where, as shown above, $l_P^2 = \lambda\!\!\!^{-2}_P = \frac{\lambda\!\!\!^{-'}_{sw} \lambda\!\!\!^{-'}}{2}$

Discussion

Consider the de Broglie radius as compliment to the Schwarzschild radius

All elements (normal matter) are in a natural state of fugue (flight), with regards to the primary quantum field. Inertia can be viewed as this natural elemental interaction with the quantum background.

Planck himself observed,

"There can be no doubt that the constant h plays a definite role at an emission center of the elementary oscillation process… The thermodynamics of radiation will have arrived at an entirely satisfactory conclusion only when the constant h is understood in its full universal significance".

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David Harding