

## [“AI” PHYSICS - Energy Fields - Part 2.](#)

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### Abstract:

In the first paper on Energy Fields [1], Artificial Intelligence (AI) was used to analyze the nature of energy fields around conductors, solenoids, permanent magnets and rotating bodies. In this second paper, AI is used to analyze the interactions between **Potential** energy fields, **Orbital** energy fields and **Rotational** energy fields, and to propose the nature of these interactions throughout the universe, from the galactic scale to the sub-atomic scale. These findings may provide an explanation for the so-called 5th force, an alternative explanation for the forces at the galactic level, and an alternative explanation for the forces at the sub-atomic level, including quantum gravity.

### 1. Introduction:

Simple physics experiments have been conducted over the centuries, and elaborate theories have been proposed to explain the observations (e.g. magnetic and electromagnetic theories). These theories have become dominant and, in the modern era, they generally go unchallenged. This paper re-examines some fundamental aspects of physical behavior and, with the help of Artificial Intelligence, proposes alternative explanations for the interactions in nature.

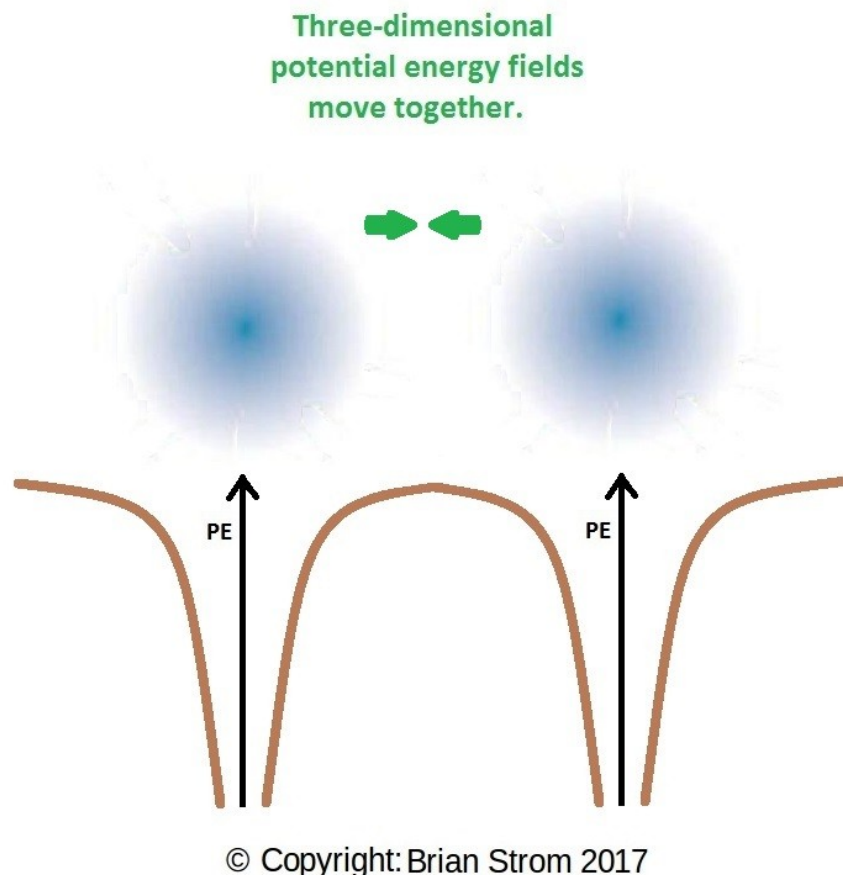
For this second paper, AI is used to analyze the interactions between energy fields. It builds on the findings in the first paper [1] where energy fields are seen to interact with each other, and to turn or move, if free to do so. The energy fields are seen to move to positions of lower net field strength, which also seems to be the configuration for lower total energy.

The AI is provided with the rule that the strength of an energy field reduces in some way with distance from the centre of the body.

## 2. Potential energy fields:

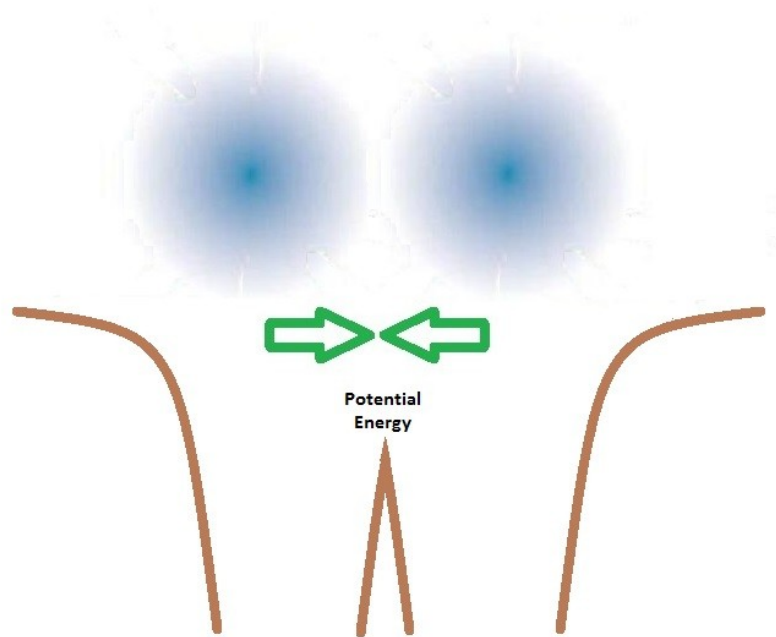
The AI is provided with examples of interactions between energy fields around non-moving objects. By observation, we believe every concentration of matter (“mass”) has an energy field surrounding it, presently called the “gravitational” field. This energy field can be visualized as a three-dimensional potential energy well, with the field strength reducing by some function of the distance from its centre.

From observation of “gravitational” behavior in the cosmos, we believe that two potential energy fields will tend to move together along the field gradients – see Figure 2a. Also, by observation, we believe that the two energy fields will tend to coalesce into one combined energy field – see Figure 2b.



**Figure 2a: Potential energy fields of two bodies.**

Three-dimensional  
potential energy fields  
move together.

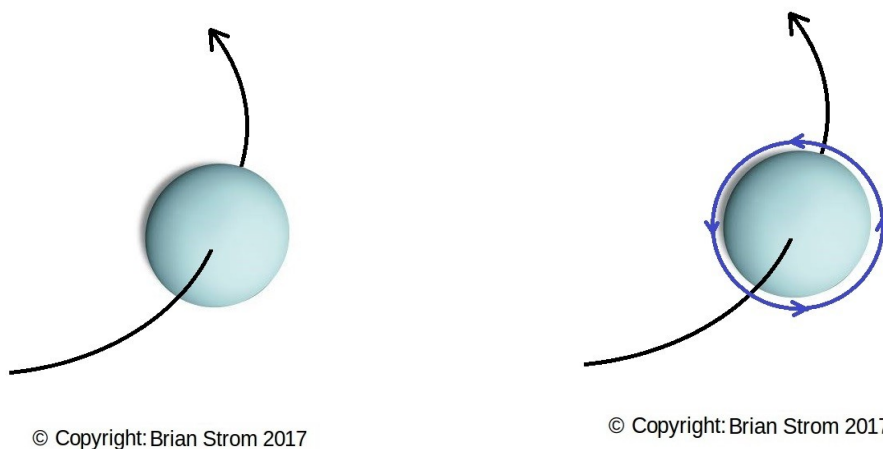


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Figure 2b: Two potential energy fields merge into one.

### 3. Orbital energy fields:

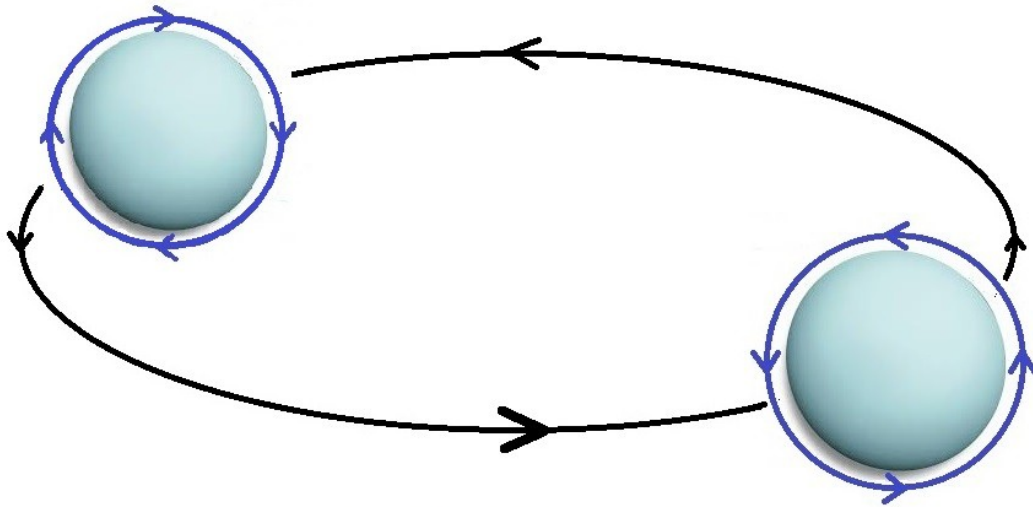
In the first paper on Energy Fields [1] the AI proposed that, whatever its path, a **flow** of energy will have an energy field around it. This applies to a flow of electrons in a conductor or to the movement of an orbiting body - see Figure 3a and Figure 3b:



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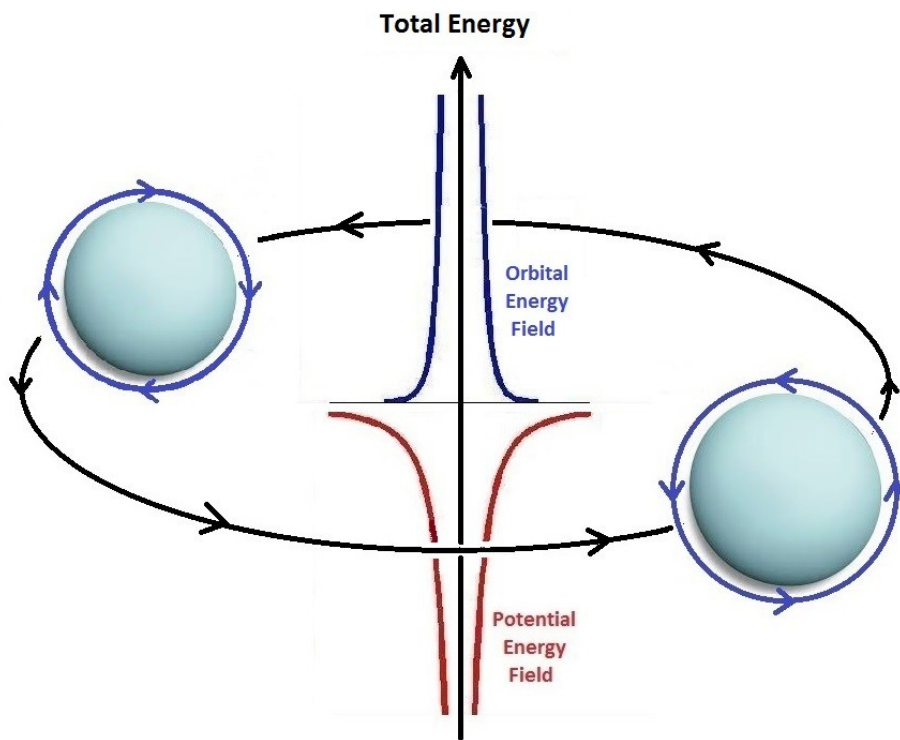
Figure 3a: Energy field of a moving body.



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**Figure 3b: Orbital energy fields of two bodies.**

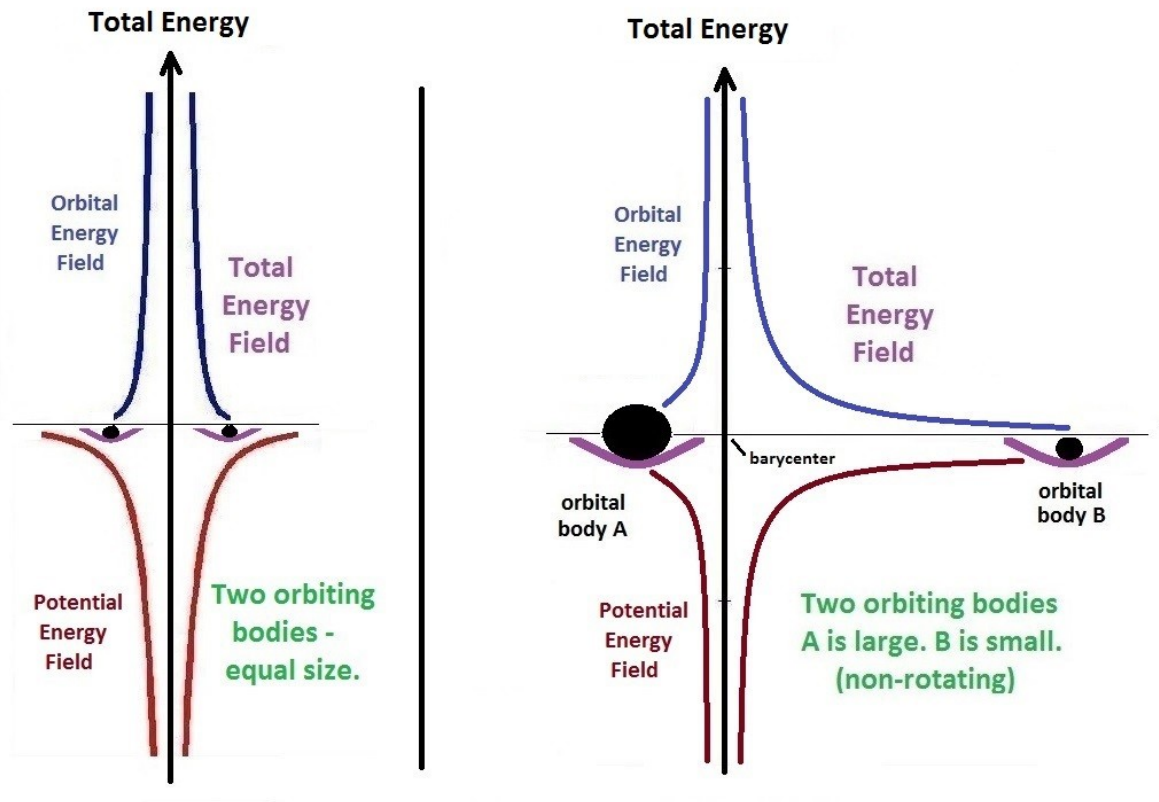
The AI observes that the **orbital** energy fields for two bodies will be additive in the central area between the two bodies. The net orbital energy field will act to keep the two bodies further apart, whilst the potential energy field will act to bring the two bodies closer together – see Figure 3c:



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**Figure 3c: Potential and Orbital energy fields of two orbiting bodies.**

The **potential** energy field and the **orbital** energy field combine to give a net energy field. The two bodies can be seen to be in a stable equilibrium at a distance apart where the total energy is at a minimum. The diagrams for two orbiting bodies of the same size, and of different sizes, are shown in Figure 3d:



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Figure 3d: Energy fields of two orbiting bodies, same size and different sizes.

The AI proposes that for multiple bodies orbiting together (e.g. in a galaxy), the net orbital field between the bodies will tend to weaken and will act to bring the bodies closer together, **and help them “stick” together**. This may be a significant factor within star systems and galaxies, affecting the orbital speeds of bodies and affecting the orbital mathematics of these systems – see Figure 3e:

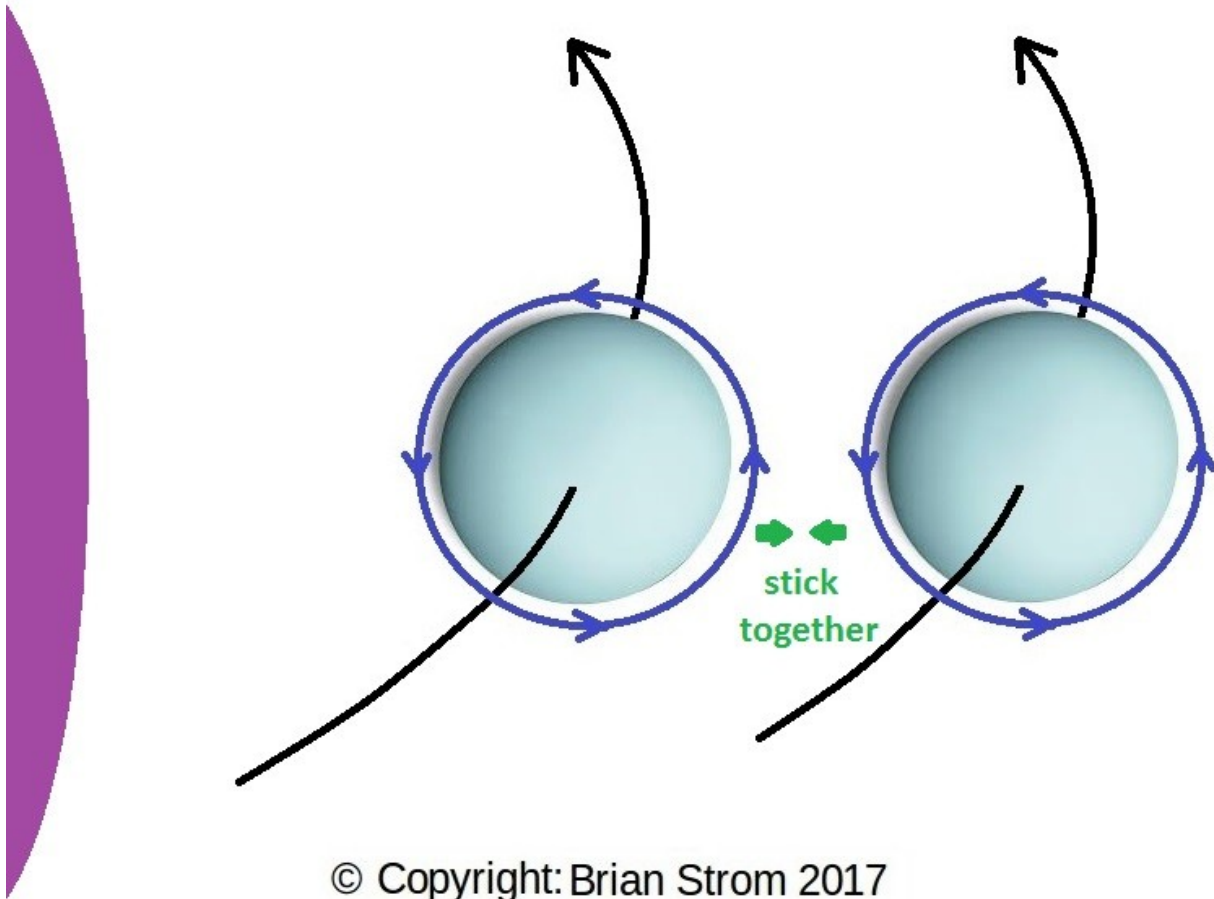
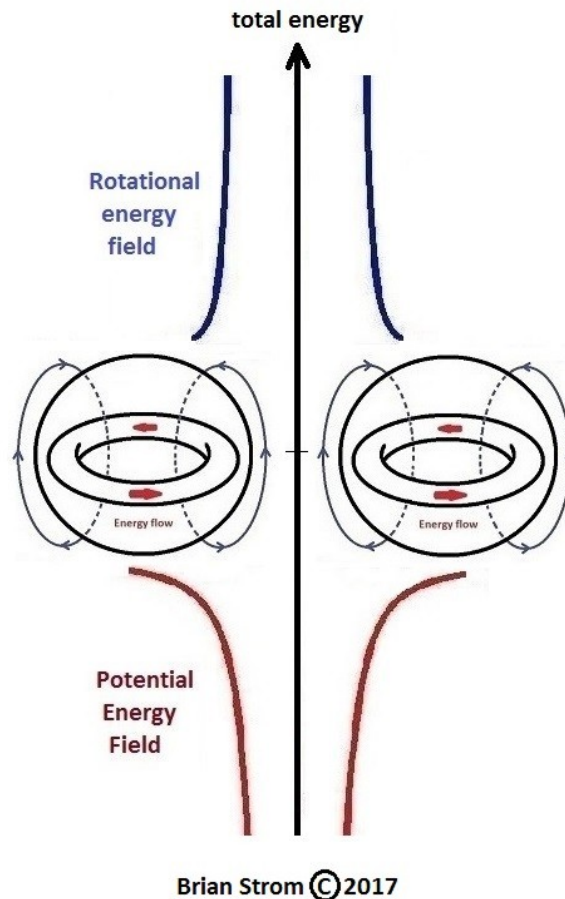


Figure 3e: Multiple bodies orbiting together will tend to “stick” together.

#### 4. Rotational energy fields:

In the first paper on Energy Fields [1], the AI proposed that a rotating body will have a **rotational** energy field around it.

For two rotating bodies, if the rotations are in the same direction (the rotational vectors pointing the same way) the rotational energy fields will be additive between the two bodies. The stronger net field strength between the two bodies will act to keep the bodies apart, whilst the potential energy field will act to bring the bodies together. The AI proposes that the two bodies will stabilize in a minimum energy position - see Figure 4a.



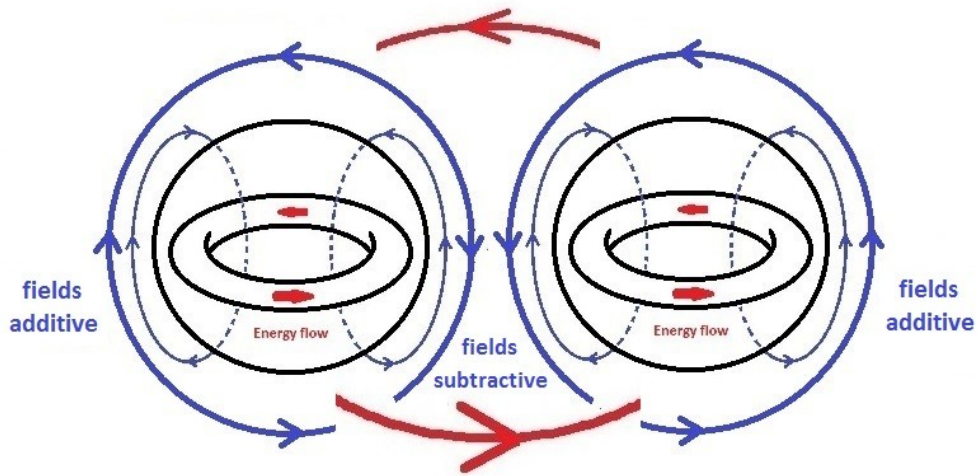
**Figure 4a: Potential plus rotational energy fields of two bodies.**

For two rotating bodies, if the rotations are in the opposite directions, the rotational energy fields will be subtractive between the two bodies. The weaker net field strength between the two bodies will act to bring the bodies together, whilst the potential energy field will also act to bring the bodies together. The net effect will be for the two bodies to collide and coalesce in some way.

### 5. Interaction between energy fields - potential, orbital and rotational:

For completeness, the combined potential, orbital and rotational energy fields can be considered together. If the **orbital** direction and **rotational** direction are in the same sense (e.g. both clockwise when viewed from above), the orbital and rotational energies will be subtractive in the central area and, therefore, the weaker net field will mean the equilibrium orbital diameter is smaller – see Figure 5a and Figure 5b:





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Figure 5a: Rotation in same sense as orbital - bodies closer together.

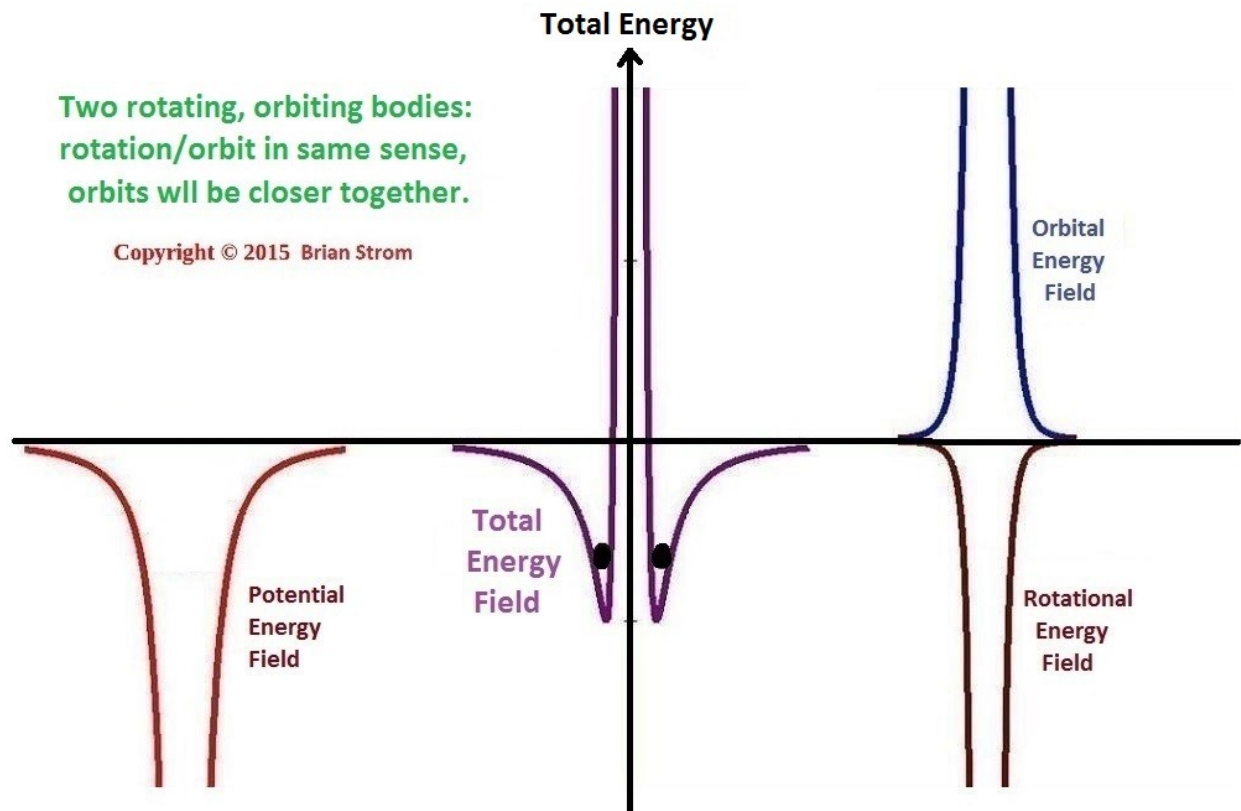
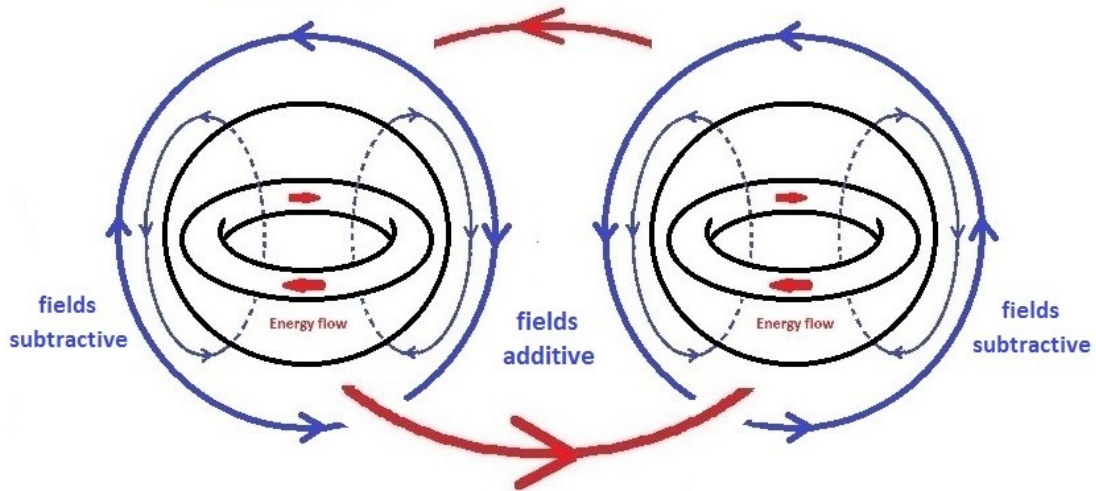


Figure 5b: Energy fields keep the two orbiting bodies closer together.



If the **orbital** direction and **rotational** direction are in the opposite sense (e.g. when viewed from above), the orbital and rotational energies will be additive in the central area and, therefore, the stronger net field will mean the equilibrium orbital diameter is larger – see Figure 5c and Figure 5d:



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Figure 5c: Rotation in opposite sense to orbit - bodies further apart.

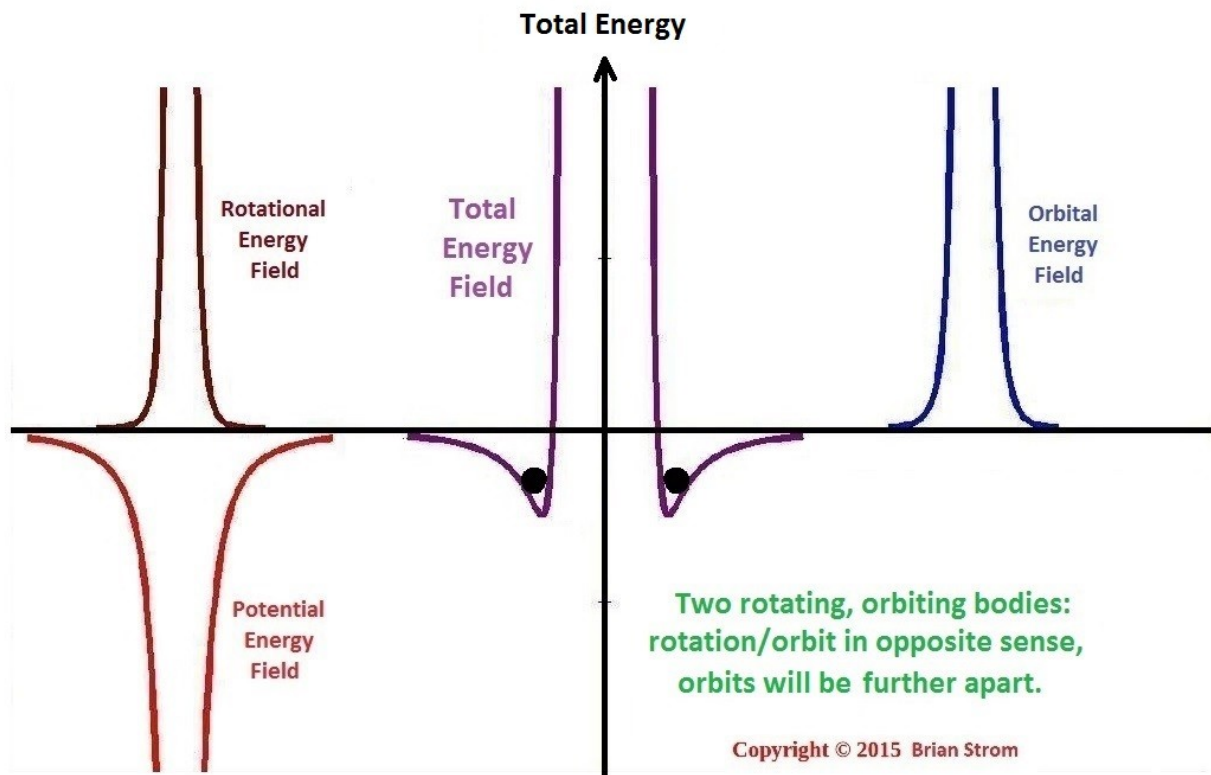


Figure 5d: Energy fields keep the two orbiting bodies further apart.

## 6. Mathematics of energy fields:

The equilibrium relationship between the **potential** energy field, **orbital** energy field and **rotational** energy field can be represented as a mathematical equation.

The potential energy field is dependent upon the mass of a body.

The orbital energy field is dependent upon the mass of a body and its velocity.

The rotational energy field is dependent upon the mass of a body and its rotational velocity.

Generally, the strength of an energy field reduces inversely with  $r^x$  where  $r$  is the distance from the effective centre of the object, and  $x$  is a power usually between 2 and 3.

From observational studies, we do not know the values of  $x$  at the galactic scale or at the sub-atomic scale. The value of  $x$  may be higher or lower.

The simplified Energy wave-function may be of the form:

**Total Energy Field = Potential Field + Orbital Field + Rotational Field =**

$$-aM_1d_1^{-x} \pm -aM_2d_2^{-x} \pm bM_1v_1d_1^{-y} \pm bM_2v_2d_2^{-y} \pm cM_1\omega_1R_1^{-z} \pm cM_2\omega_2R_2^{-z}$$

Where **a, b, c, and x, y, z** are constants.

**$M_1$  is the internal energy (mass) of body 1.**

**$M_2$  is the internal energy (mass) of body 2.**

**$d_1$  is the orbital radius of body 1 from barycenter.**

**$d_2$  is the orbital radius of body 2 from barycenter.**

**$v_1$  is the velocity of body 1.**

**$v_2$  is the velocity of body 2.**

**$\omega_1$  is the rotational angular frequency of body 1.**

**$\omega_2$  is the rotational angular frequency of body 2.**

**$R_1$  is the radius of body 1.**

**$R_2$  is the radius of body 2.**

*Note 1: The values will need to be determined by experimentation and calculation based on the observed results.*

*Note 2: The Rotational energy field may have components in all three orthogonal planes.*

## 7. Summary and Conclusions:

In this paper, Artificial Intelligence has been used to analyze interactions between **potential** energy fields, **orbital** energy fields and **rotational** energy fields, and to propose the nature of these interactions, ranging from the galactic scale to the sub-atomic scale.

The AI uses its earlier knowledge [1] based on observations that energy fields will turn or move, if free to do so, to reduce the net field between them and thereby reduce the total energy to a minimum.

The AI has not been given any historic physics theories involving concepts that cannot be proven. No “Harry Potter” physics has been used.

The **potential** energy field is presently called the “gravitational” energy field which can be seen to act between two or more bodies at the scale of stars and planets.

**Orbital** and **rotational** energy fields can be seen to be similar forms of the same phenomenon; both are caused by an energy flow or the movement of a potential energy field.

The strengths of energy fields appear to vary by orders of magnitude, but the sizes and distances between bodies can also vary by orders of magnitude. Whilst one or other energy field may appear to dominate, it does not mean that other energy fields are not present, at lower strengths. For instance, a potential (gravitational) energy field may exist within an atom.

This study of the interactions of energy fields may provide an explanation for the so-called **5th force**, an alternative explanation for the forces at the galactic level, and an alternative explanation for the forces at the sub-atomic level, including **quantum gravity**.

The theory of energy fields may be tested on the cosmological scale by observations of the interactions between celestial bodies, both orbiting and rotating.

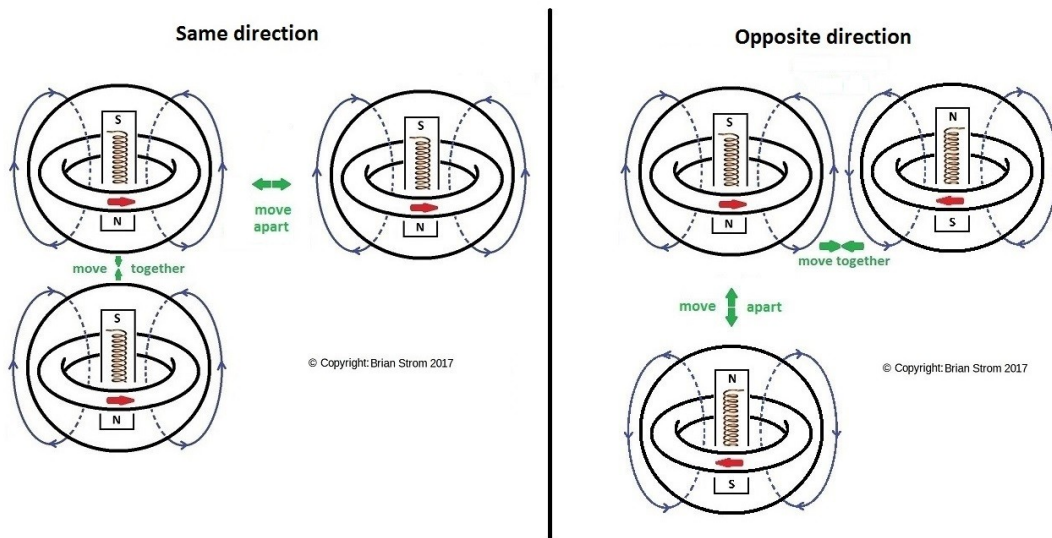
The theory of energy fields may also be used to explain the behavior of atoms and their component parts, of atomic transitions and spectra, of both single-mode and multi-mode movements - dipole, quadrupole etc.

Further information is available on the Blog: <https://edisconstant.wordpress.com/>

*Experiments are underway in London (UK) and Cambridge (Ma) and Birmingham (UK) to quantify the effects of interactions between energy fields.*

**REFERENCES:**

**[1] Brian STROM.** “AI” Physics – Energy Fields - Part 1. **viXra: 1902.0421**  
February 2019. This paper includes a composite summary of the simple interactions between energy fields as follows:



**Summary of interactions between rotational energy fields (composite).**

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