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Natural Decrease of Orbital Eccentricities

Explained by Gravitomagnetism

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Abstract: The amazing Solar Protuberance Theory gives three strong proofs for the creation of our planets from a huge electromagnetic eruption. I found a 99,98% probability fit between the initial planetary orbit diameters calculated with the theory and the actually observed ones. Since the initial orbits probably were highly eccentric, the question remains whether or not the actual planetary orbital eccentricities can be explained by the theory. This is proven here in different ways.

Keywords: Gravitomagnetism, planets, spinning stars, black holes, Solar Protuberance Theory.

1. The Solar Protuberance Theory

All the planets were created out of the sun. In an earlier paper [4], I have proven that the thermal energy of a solar eruption perfectly complies with the kinetic energy of Jupiter, our largest gas planet. In latter papers [5] [6] [7] [8], I proved that a simultaneous electromagnetic eruption occurred of both, the set of the four core planets and the set of the four gas planets. The electromagnetic eruption was made of a plasma spiral of protons that followed a solar magnetic line. The spiral was made of four huge loops. Simultaneously, an spiral of electrons erupted from a sunspot area, and followed the solar magnetic line as well. The spiral was made of four smaller loops. The four loops of each set got repelled by Coulomb repulsion and got ejected in space.

This theory is likely because of two more reasons. The first one is that, amazingly, the quotient of the masses of both the core planets and the gas planets corresponds to the quotient of the electron mass to the proton mass.

Secondly, the calculations of the electromagnetic repulsion of the planets exactly comply (as mutual relative values, up to a 99,98% probability) with the actual orbit sizes for all the planets, as well for the set of core planets as for the set of gas planets. The only missing information is the eccentricity of the orbits, and it is probable that their initial eccentricity was much higher than nowadays. But how could the eccentricity change?

2. The classical orbital energy losses

It is obvious that no work is exerted by orbiting objects. The planets are in a state of equilibrium between potential and kinetic energy and the resulting path generally becomes an fairly perfect ellipse.

But the path can be occupied by dust and cause a counter pressure that depends from the planet's shape, its diameter and its squared velocity. Since the elliptical path causes the planets to have variable speeds, maximal at the perihelion and minimal at the aphelion, the counter pressure by dust will act differently along the elliptic path as follows. When the planet's speed reaches its maximum, the counter pressure slows it down. And a slower planet moves to a wider orbit.

Such a process will make the planet widening its orbit at places where the speeds are high, and at places of lower speed it will almost remain at its orbit.

3. The 'relativistic' orbital energy losses

Another effect is occasioned by the so-called relativistic effect of the planet's speed. In terms of the relativity theory, this means that if one wants to maintain the speed of a fast planet, one has to put the energy into it.

According to the Newtonian case, the elliptical path would remain the same forever. Here however, the high velocity at the planet's perihelion makes the orbit slowing down by the relativistic effect.

In terms of gravitomagnetism (i.e. the Maxwell analogy for gravity [2] [3], initiated by Heaviside [1]), the more correct and the more precise interpretation is slightly different from the relativistic one, but the result is globally the same: the planets obtain slowing speeds at the perihelion side, and this is totally independent from any planets' environment.

4. The solar pressure

A third effect is caused by the solar radiation and matter expel which is pushing the planets away from the sun, the closer to the sun they are. Huge quantities of mass are continuously expelled, and when the planets are located at their perihelion, they experience the largest push. Here also, planets will tend to move to a wider orbit at that place.

5. Conclusion

It is clear that there are several reasons for the widening of the planets' orbits when they are near the sun, either by the planet's speed, either by the solar pressure. Also fast orbiting stellar binaries obey to the law of the decreasing eccentricity. In that case, the relativistic effect is the most important one.

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