Is the Earth a former solar sunspot?

by using the Solar Protuberance Hypothesis and the Maxwell Analogy for Gravitation.

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Summary

In two former papers, "*Are Venus' and Uranus' Tilt of Natural Origin?*" and "*The Titius-Bode law shows a modified proto- gas-planets' sequence.*" I show that the solar protuberance-model is a quite interesting hypothesis for the explanation of the planets' origin. This model comes to the following conclusions up to now. In "*Are Venus' and Uranus' Tilt of Natural Origin?*", I started with the hypothesis that *0,15 %* of the sun erupted. I found that this eruption formed the planets. To prove this, I used the observed sun's temperature as the eruption temperature, and the data then comply with the rotation velocity of Jupiter and with the orbit velocity of Mercury. I needed the Maxwell Analogy for Gravitation to come to prograde orbits for all planets.
When, in "*The Titius-Bode law shows a modified proto- gas-planets' sequence.*", I tried to find the dynamics of the solar protuberance-model, I came to the unexpected conclusion that proto-Neptune originated close to Jupiter at first and was repelled to its actual orbit. The chemical composition of the planets shows that Neptune indeed is not at its 'natural' place.

In this paper, I analyse the electrical dynamics of the protuberance and I come to the conclusion that the gas-planets and the core-planets were created simultaneously. With the solar protuberance-model, I can calculate the correct total mass of the core-planets out of the conservation of momentum against the gas-planets. While the gas-planets have been created by a certain number of protons out of an electromagnetic solar protuberance, exactly the same number of electrons have created the core planets. In fact, the impulse of the gas-protuberance was the protons-side and it perfectly corresponds to the impulse of the core-planets at the electrons-side.

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1. A huge solar protuberance.

The spread of the gas-planets – The gas-planets follow the Titius-Bode law.

Solar flares and post-flare loops are very common events at the sun's surface. Prominences, which reach further from the sun's surface are common as well. All these phenomena are provoked and maintained in suspension by the magnetic fields of the sun.

So many eruption types can take place that in the meantime we simplify our eruption model. We consider an exceptionally huge prominence (eruption) that follows a magnetic field path.

The gas-part and the core-part – Basic concept

As explained in my first paper, the protuberance was a solar eruption in which all types of the planet's atoms were already present. It caused the ejection of matter, about 0,15 % of the sun's total mass, at a speed of about 10^5 *m/s*.

We will analyse the hypothesis of a solar protuberance and verify if the planets were created from one eruption only, or consisted of two (successive or simultaneous) eruption shocks: a first eruption shock of mainly hydrogen and some helium at one side of the protuberance (proto-Uranus, -Saturn, -Jupiter, -Neptune), followed by an implosion-explosion shock hitting a solar spot at the other side of the electromagnetic force line of that protuberance (proto-Mercury, -Venus, -Earth, -Mars).

2. The internals of a solar protuberance.

The electromagnetic properties of a solar protuberance – A screwing hot cloud

When the protuberance or eruption is formed, and taking in account the second shock, hitting the solar spot, the serie of proto-planets has the following shape. When mass ejections occur, at a temperature of $1,5\ .10^7 K$, the ionised hydrogen and the electrons follow a magnetic path which quit one electric pole and go to another pole, creating so a magnetic buckle outside the sun's surface (fig.2.1).

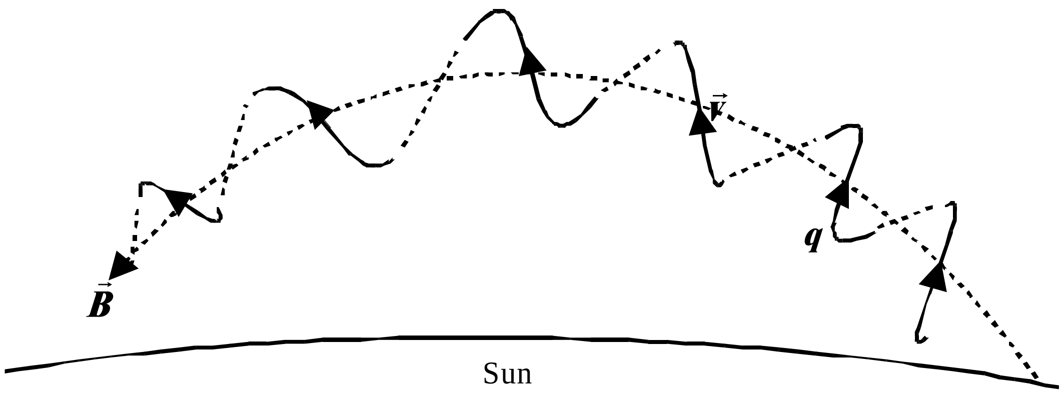

Fig.2.1

In fig.2.1 , $\boldsymbol{B}$ is the magnetic field, q the electric charge and $\boldsymbol{v}$ the screwing speed of the hot cloud. Remark that the dynamics of the cloud are almost solely defined by the positive hydrogen ions. The mass of electrons is too insignificant to influence these dynamics. The electrons will screw very tightly about the electromagnetic force line, in the inverted screwing direction of the hydrogen- and helium ions.

The rotation speed of the proto-gas-planets has been found in former paper out of some thermodynamic considerations of the sun, and this speed complies very good with the actual rotation speed of Jupiter.

Conservation of momentum – Basic statement

Let us have a look at fig.2.1 again. At one side of the protuberance, the ionized hydrogen leaves the surface of the sun and screws in the direction of the other side. The ionized hydrogen, and some ionized helium are only protons and neutrons.

The total electric charge is directly proportional to the sum of the gas-planets' masses. According to the table 2.1 this total mass equals $\boldsymbol{M_{gas} = 2{,}66.10^{27}\,kg}$. We consider that most of the mass consists of protons. All of the mass of the proto-gas-planets is made of gasses. Thus, we can say that $\boldsymbol{M_{gas} \approx M_p}$, where $\boldsymbol{M_p}$ is the mass of the corresponding ionized gasses related to the proto-gas-planets.

		SUN	MERCURY	VENUS	EARTH	MARS	JUPITER	SATURN	URANUS	NEPTUNE	PLUTO
Mass	(10^{24}kg)	*1989000*	*0,33*	*4,87*	*5,97*	*0,642*	*1899*	*568*	*86,8*	*102*	*0,0125*
Diameter	(10^3 m)	*1390000*	*4879*	*12104*	*12756*	*6794*	*142984*	*120536*	*51118*	*49528*	*2390*
Density	(kg/m^3)		*5427*	*5243*	*5515*	*3933*	*1326*	*687*	*1270*	*1638*	*1750*
Rotation Period	(hours)		*1407,6*	*-5832,5*	*23,9*	*24,6*	*9,9*	*10,7*	*-17,2*	*16,1*	*-153,3*
Distance from Sun	(10^9 m)		*57,9*	*108,2*	*149,6*	*227,9*	*778,6*	*1433,5*	*2872,5*	*4495,1*	*5870*
Orbital Period	(days)		*88*	*224,7*	*365,2*	*687*	*4331*	*10747*	*30589*	*59800*	*90588*
Orbital Inclination	(degrees)		*7*	*3,4*	*0*	*1,9*	*1,3*	*2,5*	*0,8*	*1,8*	*17,2*
Orbital Eccentricity	Eccentricity		*0,205*	*0,007*	*0,017*	*0,094*	*0,049*	*0,057*	*0,046*	*0,011*	*0,244*
Axial Tilt	(degrees)		*0,01*	*177,4*	*23,5*	*25,2*	*3,1*	*26,7*	*97,8*	*28,3*	*122,5*

table 2.1

At the other side of the protuberance, a same quantity of negative electric charge is appealed for by the ionized hydrogen and helium.
Let us start with the hypothesis that at that place, the surface of the sun was a sunspot. We will check now if this hypothesis fits with the observed data.

The quantity of negative electric charge at the sunspot side must be the same as the positive electric charge at the hydrogen side of the protuberance.

Now, we look what happened just before the eruption. The total hydrogen mass involved at one side of the magnetic path is given by $\boldsymbol{M_p = 2{,}66.10^{27}\,kg}$. And all that mass is made of protons only. At the sunspot side, we have lots of iron and many other chemical elements.

The sunspot has been hit by the electric flow of the electrons. Indeed, the ionized hydrogen did not hit the sunspot, but only the electrons did. The electrons followed a spirally path, very close to the magnetic path of the protuberance, while the ionized hydrogen followed a widely spread spirally path along the same magnetic path.

The conservation of momentum defines that the momentum of the erupted mass of electrons $\boldsymbol{M_e}$ must be equal to the momentum of the mass $\boldsymbol{M_s}$ of the erupted sunspot matter:

$$\boldsymbol{M_e\, v_e = M_s\, v_s} \qquad (2.1)$$

Thus, the hypothesis that the electrons hit the sunspot and so created a pure mechanical process of impulses, will be checked here.

We know the velocity of the ionized hydrogen from "*Are Venus' and Uranus' Tilt of Natural Origin?*", at the moment of eruption, which is $\boldsymbol{v_p = 2{,}5\,.\,10^5\, m/s}$. This velocity could be deducted from the sun's temperature only, although the quite low accuracy we have got from it. Therefore we have taken the real velocity of the gasses in Jupiter, of which I believe that it is as close as possible from the original protons' velocity. The velocity of the electrons has to be the same, because the ionization of the hydrogen splits the protons and the electrons, and only the temperature of the sun is responsible for the velocity of both the protons and the electrons along the magnetic path, according my former paper. Hence : $v_e = v_p$.

In the paper "*Are Venus' and Uranus' Tilt of Natural Origin?*" I also calculated the approximative velocity of the core planets. Since the accuracy of that calculation is too low, we shall use the real velocities of the core-planets here. However, this does not harm the validity of the reasoning in this paper.
The average orbital velocity of the core-planets represent the velocity of the erupted sunspot. Thus, by using the figures of table 2.1, and by applying the planets' mass-related load factors, we find an average velocity of about $v_s = 0{,}3\ .\ 10^5\ m/s$. And finally, the total mass M_e of the electrons that are involved is :

$$M_e = M_p \frac{m_e}{m_p} \qquad (2.2)$$

where m_e and m_p are the elementary masses of the electron and the proton.

Hence,
$$M_e = 2{,}66.10^{27} \frac{m_e}{m_p} kg = \frac{2{,}66.10^{27}}{1838} kg \qquad (2.3)$$

It is possible to calculate the total mass of the ejected part of the sunspot M_s out of (2.1), combined with (2.3):

$$M_{sunspot} = \frac{2{,}5.10^5\ m/s\ .\ 2{,}66.10^{27}\ kg}{1838\ .\ 0{,}3.10^5\ m/s} \qquad (2.4)$$

or

$$M_{sunspot} = 12\ .\ 10^{24}\ kg \qquad (2.5)$$

which indeed is, with a very good approximation, the sum of the masses of the core-planets, which is $11{,}8\ .\ 10^{24}\ kg$. The velocities used in (2.4) are correct within a small error margin. The asteroid belt should be considered as a part of the gas-planets' composition, but its mass is marginal anyway.

What can we deduct about the sunspot?
In a sunspot, there are many different chemical elements present in different quantities. As a matter of fact, the equation (2.5) implies that the sum of the core-planets is a good representation of the content of a sunspot. When we look at table 2.2 , we have an idea of the elements which are present in our core-planets.

Element (wt%)	Atomic Mass	Mercury	Venus	Earth	Mars
Fe	26	*64,47*	*31,17*	*32,07*	*9,50*
O (bound)	8	*14,44*	*30,90*	*30,12*	*45,00*
Si	14	*7,05*	*15,82*	*15,12*	*25,00*
Mg	12	*6,50*	*14,54*	*13,90*	*17,00*
S	16	*0,24*	*1,62*	*2,92*	
Ni	28	*3,66*	*1,77*	*1,82*	
Ca	20	*1,18*	*1,61*	*1,54*	*1,50*
Al	13	*1,08*	*1,48*	*1,41*	
Total (wt%)		*98,62*	*98,91*	*98,90*	*98,00*
Total mass (10^{24}kg)		*0,33*	*4,87*	*5,97*	*0,642*

table 2.2

3. Conclusion : good probability of a simultaneous creation of all our planets.

From the former papers followed that the solar protuberance is a valid hypothesis as the origin of the formation of our planets. There is a strong probability that the gas-planets came out of the same protuberance, and the sole needed data was the sun's internal temperature, which is given by the fusion process of hydrogen to helium. I have given the configuration of the proto-gas-planets' sequence inside the originally erupted cloud, which was different from the one now. The calculation of this sequence came out as the only possibility out of 24 theoretical sequences. And this configuration solved the origin of the Titius-Bode law.

Now, we find evidence that while the core-planets have been created by the impact of the electrons of the protuberance, the gas-planets must have been created by the impact of the same number of protons. Thus, the same protuberance process created all the planets at the same eruption process, but the group of core planets very probably came out of a sunspot at one side of the protuberance and the group of gas-planets very probably came out the sun's hot surface at the other side of the protuberance.
By the addition of the core planets' chemical content, we obtained the composition of a typical sunspot.

If the hypothesis of a huge protuberance is valid, it also implies that if we discover exo-planets somewhere (generally these are large gas-planets) , there is also a good chance to find core-planets as well, and consequently a higher chance of intelligent life than we could ever have imagined before.

4. References and interesting lecture.

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