

## **Jupiter as potential second Sun: some remarks**

Edgars Alksnis  
elalksnis@gmail.com

Consequencies of „electromagnetic” Second Sun concept are discussed in brief. Probability of phenomenon should be considered in Mars colonisation mission.

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*...satellite of Jupiter- Io is smaller than the Moon, but its thermal flow exceeds that of the Earth. ...There is swelling on Io surface. First, scientists thought, that it is caused by volcanic activity, but more close examination revealed, that from place of swelling to Jupiter's center goes electric stream of unclear origin, strenght of current of which grows on an ongoing basis. From 1 million amps in 1989 it rose to 6 million amps in 1999. Io plays role of electrogenerator. To this incoming powerful stream Jupiter reacts with growing intensity of ionisation of atmosphere. In connection with processes, which proceed in outer space, plasmageneration of Jupiter constantly grows. Io provokes Jupiter to plasmageneration and at the same time closes it growing amounts in space around Jupiter. Observatories on Hawaii and in Japan had detected blinking of space between Jupiter and Io. When concentration of plasma will reach critical levels, it will start to glow, and we do not be able to see Jupiter anymore- only glowing ball with dimensions of orbit of Io. Here are estimations, that this can proceed by the end of XXI-th century.*

*In our time Jupiter is preparing to become second Sun- about this possibility we can read in works of H.Blavatsky, H. Rerikh and 92-th letter of Kuthumi.*

Alexei Dmitriev

*Moreover many cosmogonists speculate that the Solar System itself was once a binary system, or at least is now a kind of fossil binary system, with Jupiter exhibiting star-like traits.*

Alfred de Grazia and Earl R. Milton „Solaria Binaria”.

As here are some prophecies for Second Sun and alternative cosmologist sees a mechanism behind possible activation of Jupiter- Io system, it look reasonably to notice some important moments, which are outside of plain “electric universe” system. (Unexplained) self rotation speed of Jupiter is fast, giving large rotational angular momentum. At the same time, critical for performance of the system is liquid state of Io as we can see from so-called Mimas-Enceladus paradox for Saturn (more distant Enceladus is geologically and electrically active while Saturn's innermost moon Mimas is not).

Recently here appear data, which suggest, that interiors of Jovian planets likely behave as solids (cf.Kaspi et al., 2013, Guillot T. et al 2018). This is, as we later will see, in good agreement with modified concept of DesCarte's dynamics:

1. spinning of central body creates a vortex, which determines Kepler's laws regarding orbital parameters of secondary,

2. spinning central liquid bodies should create more effective vortices than spinning solid bodies,
3. spinning central bodies in supercritical state should create more effective vortices than spinning liquid bodies,
4. spinning molten rocks should create more effective vortices than spinning water/liquid hydrogen bodies.

Mainstream sees this effects mainly trough the planetary „magnetism” goggles. Thus strong „magnetic” field of Jupiter and weaker- that of Saturn in fact should mean, that liquid layer on Saturn’s surface is smaller than that of Jupiter’s surface. We see effect also in determination of densities of Saturn and Jupiter. Since more spinning liquid means more effective vortex, application of faulty Newton’s modification of Kepler’s 3-rd law (Alksnis, 2018) gives absurdly low density of Saturn (0.687) and doubtful density number for Jupiter (1.33).

We can write „DesCartes modification of Kepler’s Third law” in the form

$$V \cdot d \cdot \omega \cdot k = 4 \cdot \pi^2 \cdot A^3 / P^2$$

were **V** and **d**- volume and density of spinning central body, **ω**- equatorial spinning speed of central body and **k**- coefficient, which shows, how effective is vortex, produced by spin of central body, in putting an orbital movement to satellites (influence of internal properties of central body). **A**- mean orbital distance of secondary, **P**- orbital period of secondary. Than calculation of value of **k\*d** shows (table 1), that today vortex of Jupiter indeed is weak. Even the Earth has stronger vortex than Jupiter.

Primary	Volume V, m <sup>3</sup>	Equatorial rotating speed, ω <sub>eq</sub> rad/sec	Secondary	Mean orbital distance A, m	Period P, sec	k* d
Earth	1.08E+21	7.29E-05	Moon	3.84E+08	2.36E+06	5.10E-03
Jupiter	1.43E+24	1.76E-04	Io	4.22E+08	1.53E+05	5.04E-04
Sun	1.41E+27	2.90E-06	Mercury	5.79E+10	7.60E+06	3.26E-02

**Table 1. Proportional calculations of some two body systems.**

(Keplerian proportion is sensitive to orbital distance at first.)

Due to possible further activation of Jupiter- Io system there are two scenarios for development of Jupiter. First, Jupiter can react to overheating with its surface only. Second- overheating influences Jupiter’s interior. In latter case its viscosity could decrease, giving stronger internal turbulence, stronger vortex and stronger radiations of different kind. As we see from data of table 1, coefficient **k** for Jupiter could easily increase several times. Corresponding raise of orbital distance of Io should not calm Jupiter in that case.

Above mentioned should be important for Mars colonisation mission planning.

### References

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