

THE WAVE PRINCIPLE OF THE DISTRIBUTION OF SUBSTANCE IN SOLAR SYSTEM

V.A. Smirnov

Academy of Communication of Ukraine, *smirnovw@tm.odessa.ua*

ABSTRACT. The wave principle of planet system formation and systems of satellites of Jupiter, Saturn and Uranus in Solar system is considered.

The opinion about the wave nature of substance' distribution in Solar system comes out of fundamental book of J.Kepler "Welt Harmonik" (Kepler, 1939; Smirnov & Shvets, 1987). In this book by J.Kepler the musical proportions are united with geometrical means of building Plato's inscribed and described figures. From this construction of geometrical figures in the scales of Solar system J.Kepler receives the method of the detecting of the distances of planets from Sun, when the orbits of planets are equal with geometrical figure built accordingly inscribed or described around another.

The definition of the planets' orbits according to the constructed "Plato' figures" is geometrically possible in case of existence of common measure for these geometrical constructions, how λ – the length of wave.

Proportions, received by J.Kepler, are possible in the case of formations of standing waves in the space of Solar system, when the place of the formation of planets conforms the main surfaces of standing waves having as the source the central luminary of Solar system. Similarly in experiments of Chladni, during the formation of standing wave on the planes of fluctuating plate scattered along its particles are collecting together, getting from points which fluctuate with maximal amplitude, to the points, the amplitude of fluctuations of which is equal to zero, filling in the main lines (Smirnov, 1999a).

If we will consider the Central luminary of the planet' system or their satellites as a source of "gravitational waves" which are reflected from the environment with less density on the borders of system in the period of its initial evolution then the standing wave with crests and nodes in definite points along the direction of its distribution.

If we would mark the co-ordinate, along which the wave through r will form, then, for one-dimension standing wave the co-ordinates of main points correspond to points defined from the condition:

$$Y = \frac{2n + 1}{4} \cdot \lambda,$$

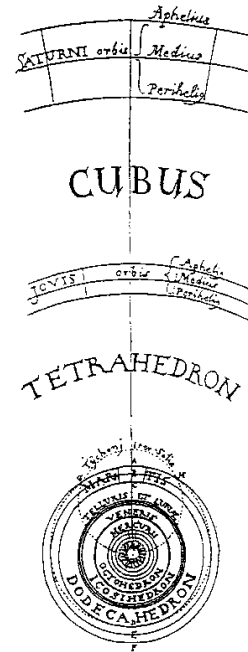


Figure 1: Planet orbit construction according to J.Kepler from book "Harmony of Universe"

Table 1:

Satellite Of Jupiter	True distance from Jupiter 10 ³ km	Calculated distance 10 ³ km from Jupiter
5	181	
Io	422	181+ λ =422
Europa	671	181+2 λ =661
Ganymede	1070	181+4 λ =1141
Callisto	1883	181+7 λ =1861
6	11476	181+47 λ =11461
10	11700	181+48 λ =11701
7	11737	181+48 λ =11701
12	21200	181+88 λ =21301
11	22600	181+93 λ =22501
8	23500	181+97 λ =23461
9	23600	181+98 λ =23701

Table 2:

Saturn' satellite	The true distance from Saturn 10^3 km	Calculated distance 10^3 km from Saturn
Janus	159	159
Mimas	186	$159 + \lambda = 186$
Enceladus	238	$159 + 3\lambda = 240$
Tethys	295	$159 + 5\lambda = 294$
Dione	377	$159 + 8\lambda = 375$
Rhea	527	$159 + 14\lambda = 537$
Titan	1222	$159 + 39\lambda = 1212$
Hyperion	1483	$159 + 49\lambda = 1482$
Iapetus	3560	$159 + 126\lambda = 3561$
Phoebe	12950	$159 + 474\lambda = 12957$

In this formula n - whole numerals 0, 1, 2,... In such condition for the length of gravitational wave we receive significance 0.52 AU (Smirnov, 1999b).

Presuming the length of standing wave equal $\lambda = 240 \cdot 10^3$ km for the system of satellites of Jupiter we can receive the result, similar to the following information (Table 1).

If we will admit as the "common measure" the length of characteristic standing wave for Saturn $\lambda = 27 \cdot 10^3$ km, then the distances of the Saturn' system of satellites display the same wave regularity (Table 2).

If we will admit the effective length of wave for the system of Uranus' satellites equal to $\lambda = 62 \cdot 10^3$ km then we can receive the picture of the nodes of standing wave, in which these satellites were formed.

References

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