

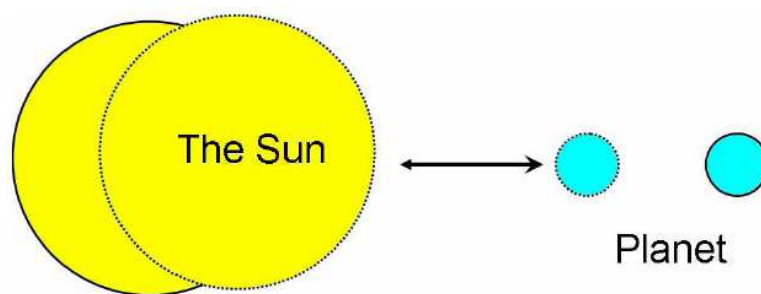
## Pushing the Sun out of it's place

Edgars Alksnis  
e1alksnis@gmail.com

Application of Newton's Third law to the solar „inertial motion” case  
leads to surprising results

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The fact that the Sun so easy can be pushed out from the mass centre of solar system by action of some planets (Blizard, 1969) is at odds with the current calculated solar mass. Surprisingly, virtually nobody has questioned the value of this astronomic value, which is derived from a gravitation-and-inertia-only universe (Rabe 1967, 1967A). The so-called solar inertial motion phenomenon gives one an alternative way for considering planetary/solar mass relations. Mutual displacements of pairs of celestial bodies (the Sun/Jupiter, the Sun/Saturn, the Sun/Uranus, the Sun/Neptune and the Sun/Pluto) should follow Newton's third law and be inversely proportional to masses of the luminaries (fig.1).



**Fig.1 Mutual displacement of the Sun and Jovian planets.** Not to scale.

If maximal displacement distance for the Sun ( $2.19 \text{ solar radii} = 1\,523\,145 \text{ km} = 0.01 \text{ AU}$ ) as well as the approximate increments for action of each Jovian planet (Blizard, 1969) are known the following information can be derived (table 1.)

Planet	Estimated mass (in Earth's masses)	Mean orbital distance, AU	Relative displacement of the Sun by planet	Displacement of the Sun by planet, AU	Reciprocal displacement of planet by the Sun, AU
<b>Jupiter</b>	317.83	5.20	1 660	0.0049	5.13 AU
<b>Saturn</b>	95.16	9.54	907	0.0027	9.45 AU
<b>Uranus</b>	14.54	19.18	280	0.00082	18.78 AU
<b>Neptune</b>	17.15	30.05	520	0.0015	29.13 AU
<b>Pluto</b>	0.0022	39.44	35	0.00010	15 139.1 AU

**Table 1. Calculation of proportional displacement of planets by the Sun.**

If interpretation of data from Blizard and our guesses are correct, the results of calculation show that the solar mass is determined properly. Non-gravitational interactions determine the orbital distances of Jovian planets. The correct mass of Pluto-Charon system should be around the mass of Venus (0.84 that of Earth's). NASA *New Horizons* mission in summer of 2015 can validate the basis of this story.

**References**

Blizard J. (1969) Long range solar flare prediction. NASA *contractor report 61316*.  
Rabe E. (1967) Corrected derivation of astronomical constants from the observations of Eros (1926-1945). *The Astronomical Journal* **72**, 852.  
Rabe E. (1967A) The Earth+Moon mass and other astronomical constants from the Eros motion 1926-1945. *The Astronomical Journal* **72**, 856.

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