**3rd National Congress on Physical Sciences**, **29 Sep. – 2 Oct. 2016, Sofia** Section: Astronomy and Astrophysics

## **Basic Internal Dependences in the Two Groups of the Solar Planets**

## Tsvetan B. Georgiev $^{1,2}$

 <sup>1</sup>New Bulgarian University, Department of Natural Sciences, BG-1618 Sofia
<sup>2</sup>Institute of Astronomy and National Astronomical Observatory, BG-1784 Sofia

**Abstract.** Basic parameters of the planets (orbital period, orbital inclination, mass, diameter, relative inertial momentum etc.) are presented in dependence on the major orbital semi-axis. Main tendencies in the changes of the parameters separately for each group of planets are illustrated. The dependences driven for all planets seem broken in the region of the Main Asteroid Belt. However, the dependences in both groups of the planets, regarded separately, are notable different. The diagrams build in this study show that the fundamental distinctions between two groups of planets seem to be a result of different scenarios of their origin and formation rather than of one or more catastrophic collisions in the beginning.