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What did we Learn About Planet Jupiter from Spacecraft Juno?

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Editorial- I have an article published, "How Are the Planets Born?" [1]. Here is my explanation how the planet Jupiter was formed. During solar activity, when the chain of alternating vortices and anti-vortices running along the solar equator is active, anti-vortices eject spinning solar-plasma balls and nearby vortices suck them back in. Imagine a Black Hole passing-by from a distance during solar activity. As it approaches, it would pull bigger and bigger solar masses from ejecting solar anti-vortices, but being too far to swallow the ejected masses, it would leave them behind, and with time they would start cooling down. Jupiter was formed from a big spinning plasma ball. While other smaller plasma balls solidified with time and turned into planets, Jupiter remained gaseous because the pulled mass was too big.

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What Did We Learn about Planet Jupiter from Spacecraft Juno?

Prof. Maria Kuman

Editorial

I have an article published, "How Are the Planets Born?" [1]. Here is my explanation how the planet Jupiter was formed. During solar activity, when the chain of alternating vortices and anti-vortices running along the solar equator is active, anti-vortices eject spinning solar-plasma balls and nearby vortices suck them back in. Imagine a Black Hole passing-by from a distance during solar activity. As it approaches, it would pull bigger and bigger solar masses from ejecting solar anti-vortices, but being too far to swallow the ejected masses, it would leave them behind, and with time they would start cooling down. Jupiter was formed from a big spinning plasma ball. While other smaller plasma balls solidified with time and turned into planets, Jupiter remained gaseous because the pulled mass was too big.

In the September journal of Physics Today, 2020, David Stevenson published an article on p. 62: "Juno at Jupiter" [2]. The spacecraft Juno was sent to Jupiter to send us data about planet's composition and structure and to answer the question how the solar system came into being. Juno was longed in 2011 and went into the orbit of the Jupiter satellite Io on July 4, 2016. Three major tasks were the goal: 1/ to measure the gravitational field of Jupiter, 2/ to measure its magnetic field, and 3/ to measure the passive radiation coming from inside the planet.

The planet Jupiter is oblate. As a result, Jupiter behaves as a gravitational quadrupole, and this makes the elliptical orbit of Juno to precess. The strong winds of Jupiter also influence Juno's trajectory. The measured high gravity harmonics of Jupiter's gravitation through mathematical modeling revealed Jupiter's internal structure. The simplest interpretation of the higher gravity harmonics is that the heavy elements at the center of the planet are dispersed instead of forming a compact central core. David Stevenson thinks that one possible explanation is that there was a giant impact during the Jupiter formation.

According to me, the distortion came from the Sagittarius Dwarf Galaxy when the last was merging through our Solar System [3].

Microwave radiometer on spacecraft Juno measures planet's interior radiation. From these measurements information could be extracted about Jupiter's water content. Juno's microwave data suggest that the water on Jupiter is three to four times more abundant than it is in the atmosphere of the Sun. This means that as a gaseous planet cools down, the amount of water in it increases. This is very important finding because the life on each planet depends on water. As a gaseous planet cools down and the amount of water increases, when finally the planet solidifies, there will be enough water to sustain life on it.

Previous spacecraft of 1950 has documented the magnetic field of Jupiter as being somewhat Earth-like. The magnetic dipole tilt of Jupiter and the Earth are the same within accuracy up to 1^0 - when their magnetic fields are concerned Jupiter and the Earth are like twins. Like the Earth, Jupiter has magnetic field that changes with time and the changes of both planets are synchronized. The Spacecraft Juno found that the spatial distribution of the magnetic field on Jupiter is strongly inhomogeneous and so is Earth's magnetic field.

Based on the found connection between Jupiter's magnetic field and planet's winds, the author David Stevenson of article [2] "suggests an interaction between the magnetic and gravity fields" [2]. This is exactly what I claim in my article [4] – the gravitational field is much weaker because is a special type of electromagnetic field with torus shape, which result from a vortex stuck on the top of an anti-vortex, and this compensated most of the electromagnetic energy. Thus, the latest findings of spacecraft Juno, orbiting around Jupiter, confirm my predictions about the origin of the planets and my vision of the gravitational field as a special type of weak electromagnetic field.

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