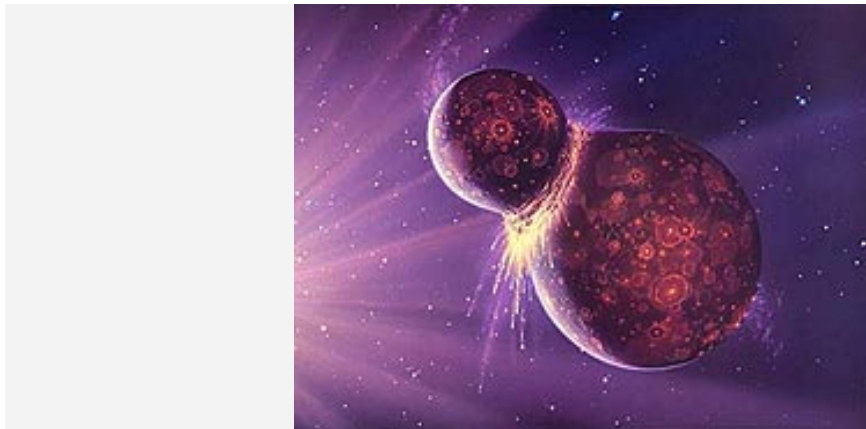


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**News Archive 2009**

**How was the Moon created?**

Week 28



A gigantic collision led to the formation of Earth's Moon

Forty years ago, on 21 July 1969 at 03:56:20 (Central European Time), Neil Armstrong became the first man to set foot on the Moon. All (six to date) Moon landings took place between 1969 and 1972 and a total of 12 people, all of them American astronauts, have walked on the Moon's surface. They brought rock samples from the Moon back to Earth with them. The analysis of this rock was supposed to resolve the question of how the Earth's relatively large Moon was formed.

In fact, the rock analyses revealed weaknesses in the three competing theories existing at the time with regard to how the Moon was formed. The 'sibling' theory postulated that the Moon and the Earth were created at almost the same time and in proximity to each other. According to the 'capture' theory, the Moon was formed far from Earth and, while passing by, was bound to the Earth due to its gravity. The 'fission' theory assumed that there was a hot, viscous and rapidly rotating primordial Earth, from which a giant 'drop' broke off and which was later to become the Moon.

**The Moon – a "heap of rubble"**

The current preferred hypothesis regarding the Moon's formation is the 'collision' theory. It is, so far, the best at explaining how compositions of rock from the Earth and rock from the Moon differ. According to the collision theory, at the dawn of the Solar System a heavenly body the size of Mars hit the young Earth. As a result, material from the rocky mantle of the heavenly body and of the Earth was hurled into space. This collected in the shape of a ring on a path closely orbiting the Earth where it then gradually 'clumped together' to form the Moon.

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