

# Are rings of Saturn evidence of a young solar system/universe?

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**Date:** 07/04/04

Date: 4 Jul 2004 09:28:05 -0700

Creationists say that the rings of Saturn are just one of several evidences indicating the universe is young. See papers by Danny Faulkner, Wayne Spencer, Andrew Snelling, David Harris, Ron Samec et al.

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<http://creationanswers.net/astron/REVSS1.HTM>

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[snip]

Considering the possible effects of large collisions in the solar system, the second possibility mentioned above is very interesting. This is that a large number of objects passed through the solar system, leading to a number of collisions. Saturn's moon Enceladus possesses many craters around its North Pole.<sup>4</sup> This appears like what one would expect if a group of objects came from outside the solar system and impacted with the moon in a brief period of time. Some of the moons of Saturn have so many craters that present processes cannot explain them, even using an evolutionary time scale. An authoritative book on Saturn made this point about Saturn's moon Iapetus: "At estimated current rates it would require one thousand billion years to produce the crater density observed on Iapetus."<sup>5</sup> Small objects, perhaps similar to small asteroids, passing through the solar system would be deflected by the planets into various paths. Jupiter and Saturn would have especially strong pulls on such debris objects. This could lead to some objects being pulled toward the inner solar system, and perhaps even to Earth.

(Iapetus at Saturn)

Impacts are powerful events. The Shoemaker-Levy 9 (SL-9) comet impact of 1994 illustrated this.<sup>6</sup> The SL-9 comet fragments caused plumes of

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superheated gas to rise about 3,300 km (2,050 miles). Scientists were surprised how long-lived the effects of the collision were in Jupiter's atmosphere. Though there are many uncertainties about the sizes of the fragments, best estimates suggest 0.5 to 1 km in diameter for the largest. What happened at Jupiter could have occurred at Earth, so that just one object could break up and cause a number of impacts. Recently, Astronomy magazine reported the discovery of a 700 km long line of eight probable impact sites in the United States, stretching from eastern Kansas to southern Illinois.<sup>7</sup> These sites have been found to have circular structures as craters should, there are shocked minerals and shattered rocks as well, that are good indicators of impact. This probably represents a comet object that broke up as it approached Earth, producing a straight line of eight impact sites. In historical times, there have also been known cases of objects from space exploding in Earth's atmosphere, as well as striking the ocean. Over one hundred sites on Earth have been suggested as being remnants of impact craters. Could a solar system event have caused a large number of impacts on Earth? This is a definite possibility. Such an event may have occurred at the time of the world-wide Noahic Flood. One recent discovery from the Clementine spacecraft shows that very large impacts have occurred on the Moon, very close to Earth. Near the Moon's South Pole the largest known impact site in the solar system, the Aitken Basin, was discovered. It is approximately 2,500 Km in diameter and on the far side of the Moon, the side which is always oriented away from Earth. The following graphic shows the Aitken basin, in the large blue and purple circular area at the bottom of the graphic on the right.

(Topographic map of the Moon)

New findings from robotic spacecraft provide factual data that can be very helpful to creationist scientists as they develop a creationist model for explaining the solar system. In coming years there will be more discoveries from missions to Saturn, Mars, and Pluto, assuming NASA's current plans become reality. NASA has begun a series of missions known as the Discovery program.<sup>8</sup> The Discovery missions will be unmanned spacecraft which are built to provide a high scientific return for limited cost. The first is NEAR, which has already been launched. NEAR stands for Near Earth Asteroid Rendezvous, in which a spacecraft will orbit and study the asteroid Eros at very close range. Other planned Discovery missions include the Mars Pathfinder, the Lunar Prospector, and another mission to collect material from a comet and bring it back to Earth, called Stardust. The Mars Pathfinder mission includes a small robotic rover vehicle which is equipped to move across the Martian surface and gather data including the composition of Martian rocks. The Cassini mission to Saturn will be somewhat similar to the current Galileo mission to Jupiter. A spacecraft will stay in the Saturn system for an extended time and will send a probe into the atmosphere of Saturn's moon Titan.

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[http://www.pathlights.com/ce\\_encyclopedia/03-ss5.htm#Delicate%20Rings](http://www.pathlights.com/ce_encyclopedia/03-ss5.htm#Delicate%20Rings)

## The Delicate Rings of Saturn – The Age of the Universe

9 – The delicate rings of Saturn. The rings of Saturn are primarily composed of solid ammonia, along with pebbles of various sizes. Scientists are trying to figure out how such a delicate substance as ammonia, which should rather quickly vaporize off into space, could be formed into these equally delicate rings. How could those rings—and Saturn inside them—have been accidentally formed from gas, collisions, or some other such chance occurrence? But, the fact that they exist directs our attention to several age problems:

"The theory that explained how Saturn's rings could persist through 4.6 billion years of solar system evolution also explained why Saturn was the only planet that could have a ring.

"Then those theories had to be revised to account for the rings of Uranus. The revisions implied that Jupiter would not have a ring. Now Jupiter has been found to have a ring, and we have to invent a theory to explain it . . .

"Dust and grain-sized particles can be fueled out as major constituents of the ring [of Jupiter]. The intense radiation in Jupiter's magnetic field would sweep them out . . . No theory has yet been developed that explains how all three of these planets could have rings for so long."—\*Bradford Smith, quoted in Mark Tippetts, "Voyager Scientists on Dilemma's Horns," in Creation Research Society Quarterly, December 1979, p. 185.

And then there are its 17 moons which never collide with the rings. The farthest out is Phoebe, which revolves in a motion opposite Saturn and its rings. How could that happen? How could it continue without self-destructing?

"Saturn, a planet of nearly one hundred times the mass of our earth, has millions of amazing and fragile solid bodies in orbit in the form of its familiar relatively thin rings. According to the spectrum measurements by Dr. G.P. Kuiper of the University of Arizona, these rings are composed mainly of solid ammonia. Since solid ammonia has much higher vapor pressure than ice, for instance, it is questionable whether the ammonia could have survived for the supposed life of the planet of some 4.5 billion years.

"The eminent astronomer, Dr. H. Alfvén has stated that it is unlikely that any force acting today could have caused the ring structure of Saturn, and that probably the rings were formed at the same time as Saturn itself. He points out that it is doubtful that such a fragile ring-like structure could survive the tremendous tidal forces (gravitational, as well as other forces) acting on it if its age is actually, as generally believed, 4.5 billion years old. Many scientists agree with Dr. Alfvén that it is indeed unlikely that any force acting today could have caused the ring structure of

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Saturn."—H.M. Morris, W.W. Boardman, and R.F. Koontz, *Science and Creation* (1971), p. 73.

10 – The brightness of those rings. How can those delicate rings be there? What is more, why are they so bright? Astronomers tell us that, with age, they should not have such a fresh, new brightness, and they should gradually fall into the planet.

"The rings [of Saturn] are glorious, but they may not be permanent . . . Here is some of the problem: The rings look solid, but they're really fairly flimsy. They consist of separate icy particles. Saturn's moons pull on the particles in the rings. They may be causing the particles to slowly spiral toward Saturn . . .

"There's another problem: Debris left behind by comets should bombard Saturn's rings continuously . . . This debris should cause Saturn's rings to turn dark, but Saturn's rings aren't dark; they're bright, as though they haven't been around very long. Are they a permanent feature or are they only temporary?

"For now, the rings of Saturn are one of the Solar System's ongoing mysteries."—\*Star Date radio broadcast, May 6, 1991.

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Saturn's Rings—Short-Lived and Young

by Andrew A. Snelling

First published in:

CEN Technical Journal 11(1):1, 1997

Creationists have long argued that the rings of Saturn are less than 1 million years old, in spite of evolutionists' claims that the planet is 4.5–5.0 billion years old, the same as the rest of the Solar System.<sup>1</sup> The rings are made up of rock and ice fragments that are being drawn closer and closer to Saturn's surface by the planet's gravitational pull.

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Astronomers have long believed that Saturn's rings were formed when a moon or comet about 200 km across was shattered by an impact close to the planet, leaving a mass of debris. This impact, it is suggested, happened no more than 100 million years ago.<sup>2</sup>

It was in 1852 that Otto Struve noted in the *Memoirs of the St Petersburg Academy of Sciences*<sup>3</sup> there had been changes in the widths of the rings and a progressive decrease in the width of the gap between the planet and the inner edge of ring B, relative to the combined width of ring A. Old drawings and descriptions were used to evaluate this ratio—Huygens (1657), Huygens and Cassini (1695),

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Bradley (1719), Herschel (1799) and W. Struve (1826)—results indicating a rapid approach of the inner edges of the rings toward Saturn, while the outer edge of the outermost ring (ring A) had changed little.

Now an international team of scientists (French, US and Canadian) using the Hubble Space Telescope have shown that the innermost rings are losing water 'relatively rapidly'. Indeed, the water is disappearing 'so fast', the team believes that it would all have gone already if the rings were more than about 30 million years old.<sup>4</sup>

News of the rings' mortality didn't come as a surprise to the scientific community.<sup>5</sup> Astronomers had suspected that the rain of microscopic meteorites that pelts every body in the Solar System was rapidly eroding the rings, and they already had the indirect evidence that ring debris is falling into the planet. But this first direct evidence of the infall could tell astronomers just how fast the rings are eroding, placing direct bounds on the lifespan of Saturn's rings—and, by extension, the less showy rings of the other giant planets.

Thus, astronomers now believe that water evaporates from the particles making up the rings when micrometeorites crash into them. The fate of the water molecules depends upon their charge and distance from the planet. Neutral molecules fall back onto the rings' surfaces, but charged (ionised) particles spiral along magnetic field lines. Beyond the outer edge of the inner ring, the field lines carry them away from the planet, but at lower altitudes the field lines guide them down to Saturn. 'This result is the first evidence of significant water precipitation flux from the rings of Saturn onto its atmosphere'.<sup>6</sup>

Determining just how fast ring water is streaming into Saturn and thus how long the rings have been around will take more work and some calculations of how fast the water is being removed from the stratosphere.<sup>7</sup> A high flux would be the most direct evidence that Saturn's rings are 'short-lived'. If Saturn's spectacular rings are 'very young'<sup>8</sup> and 'short-lived', then it's 'only by luck', they say, that they are around for us human beings to marvel at. Furthermore, the 'catastrophic event' needed to make rings as massive as these—the shattering of a small moon by a comet or the disruption of a passing giant comet by Saturn's gravity—is only likely to happen just once in the planet's life-time, say the scientists.

This realization that the dazzling rings of Saturn could be a 'rare sight'<sup>9</sup> does not bother us. The evidence is increasingly mounting that the Genesis Flood was accompanied by catastrophism throughout the Solar System (for example, impact cratering), and thus we would expect Saturn's rings to be 'very young'. So it isn't by 'luck' that we are here to see them, since they are a spectacular reminder of God's judgment of His creation.

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How Old are Saturn's Rings?

by David M. Harris

First published in:

Creation 12(4):40–41

September – November 1990

The rings around Saturn make it one of the most beautiful telescopic objects in the sky. Famous Italian astronomer Galileo admired the planet almost 400 years ago, and wrote of its 'peculiar appearance' in 1610. But it was 1655 before the beautiful ring structure around Saturn was identified — by Dutch astronomer Christian Huygens.

Since then, numerous researchers have added to our understanding of Saturn's rings. In the 1980s, American space vessels Voyager 1 and 2 took close-up photographs of Saturn. They showed many hundreds of rings around our second-largest planet. The halo of rings is so enormous that 20 planet Earths side by side would still not quite reach the rings' width of more than 255,000 kilometres (160,000 miles).

Many astronomers have been puzzled about how the intricate details of Saturn's rings could remain in place for billions of years — if indeed the solar system is that old. Even some evolutionist astronomers cannot believe the rings are as old as the 'evolutionary' age claimed for the solar system (about five billion years). They admit that the rings cannot be more than 100 million years old, so they propose that they formed from the break-up of a small moon that

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once circled Saturn.

Astronomer Wing–Huan Ip, from the Max Planck Institute for Astronomy, looked into the conditions necessary for a moon to break up. He says the combined mass of Saturn's rings would amount to a moon at least 100 kilometres wide (Earth's moon is 3,473 kilometres wide). Ip says that such a moon could be shattered by a comet only two kilometres across. Yet Ip calculates that such a ring–forming collision would not happen in 30 billion years. This is about twice the age claimed for the universe by most evolutionists.

Laurance R. Doyle (NASA) of Ames Research Center, and colleagues also support a relatively young age for Saturn's rings. They examined 14 images taken by Voyager's cameras to find the reflectivity of Saturn's brightest ring. They found that the particles forming the ring are most likely coated with fine, dust–like ice. They say that micro–meteoroids would gradually erode and darken the particle surfaces. Even if the grains began as pure ice they would be blackened after only 100 million years. 'If the rings have existed... since the origin of the solar system', they say, 'they should be much darker than they presently are.'

*>From these claims, the problems for evolutionists are these:*

- \* Saturn is believed to be billions of years old, but the present condition of its rings means they can't be more than 100 million years old.
- \* The universe is believed to be about 15 billion years old, but the circumstances which might form Saturn's rings could not possibly happen in this time.

It should be noted that if Saturn has had rings since the solar system was formed, this undermines belief in the long ages proposed by evolutionists.

The evidence is consistent with the creationist belief that Saturn and its rings were created recently.

(This article is based on information in Sky and Telescope, July 1989, pp 10–11.)

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The age of the jovian planets

by Ron Samec

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