Astronomy Updates

Stars Sirius A and B, a Chandra x-ray image courtesy
NASA and Harvard-Smithsonian Astrophysical Observatory.

October 9, 2000 Cambridge, Massachusetts - The Chandra X-ray Observatory has been revealing layers of the cosmos around us with beautiful clarity. One of its x-ray images from October 1999 shows the Sirius A and B star system located 8.6 light years from Earth. The large central light is Sirius A, the brightest star in the northern sky in optical light. Sirius B is a white dwarf that is ten thousand times dimmer, but clearly shows up in x-rays. Because the two stars are so close together, Sirius B was not discovered until 1862 by Alvan Clark using the best optical telescope in the world at the time. The pink sapphire pattern is produced by the satellite's transmission grating. For comparison, below is an optical image by Arizona's McDonald Observatory.

Optical image of Sirius A and B by McDonald Observatory, Arizona.

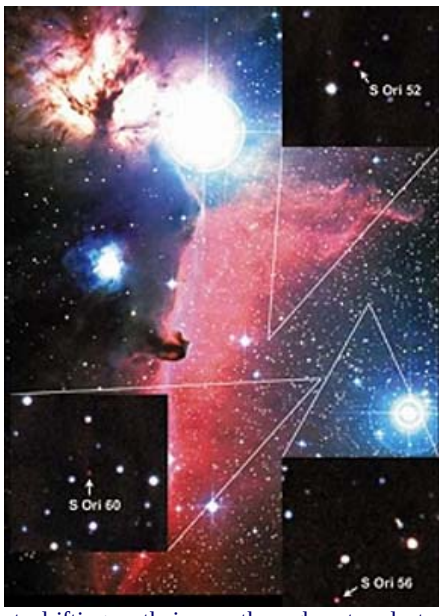
In 1976, author Robert K. G. Temple explored in The Sirius Mystery the attention that Sirius has had in several human cultures, including Egyptian, Sumerian and the Dogon tribe of Mali, Africa. The Dogon tribe for centuries has had a mythology about the invisible "smallest and heaviest of all the stars" revolving around the large and bright visible star. In fact, the white dwarf, Sirius B, does have a mass equal to the mass of our sun packed into a diameter that is

90% of the earth's diameter. The gravity on the surface of Sirius B is 400,000 times that of Earth.

French anthropologists who had studied the Dogon in the early 20th Century were puzzled by the tribe's detailed knowledge of the invisible white dwarf. The scientists said, "The question has not been solved, nor even asked, of how men with no instruments at their disposal could know the movements and certain characteristics of" an invisible companion to Sirius.

The Dogon believed that Sirius was the home of departed souls, which the earliest Egyptians also believed. Temple also speculated that the Dogon are "descendants of Lemnian Greeks who claimed descent 'from the Argonauts,' went to Libya, migrated westwards as Garamantians (who were described by Greek historian Herodotus), were driven south, and after many, many centuries reached the River Niger in Mali and intermarried with (locals)."

Pasadena, California - The lead author of the October 6 issue of Science, Cal Tech astronomer Maria Rosa Zapatero Osorio, says 18 "young giant planets" 5 to 12 times more massive than Jupiter are drifting through the Sigma Orionis star cluster in the constellation Orion about 1500 light-years from Earth. The cluster is only about 1.5 million years old compared to our solar system's 5 billion years.



18 Planets drifting on their own through a star cluster named
Sigma Orionis in the constellation Orion .
Images courtesy California Institute of Technology, Pasadena, California.

Some scientists argue the eighteen strange objects aren't technically planets which traditionally are defined as dust and gas that condense into balls and revolve around newborn stars. These huge, red, gas balls might be "failed stars" that require a new astronomical category. But where did they come from? One speculation is that they formed when a huge cloud of interstellar gas broke apart. That's how stars are created, but these odd balls were perhaps too small and cool to ignite into suns.

These eighteen independent objects are the first planet-sized objects to be seen directly from earth using visible and infrared light-detecting telescopes in Spain, the Canary Islands and Hawaii.

Mt. Wilson near Los Angeles, California - On October 4, astronomers dedicated a new observatory called the Center for High Angular Resolution Astronomy (CHARA). The six telescope array at Mt. Wilson was built by Georgia State University with support from the National Science Foundation. CHARA will resolve details 200 times finer than is possible with the Hubble Space Telescope.

The National Science Foundation press release states, "That's the equivalent of being able to see the details of a nickel coin from a distance of 10,000 miles."

NSF program manager James Breckinridge said, "This will be the first time astronomers can produce detailed images of the surfaces of stars other than our sun. We expect to learn more about the content and origin of stars and obtain clues about the sources of life on earth."

Websites:

http://chandra.harvard.edu/

http://www.science.org/

http://www.chara.gsu.edu/CHARA

http://www.nsf.gov/

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