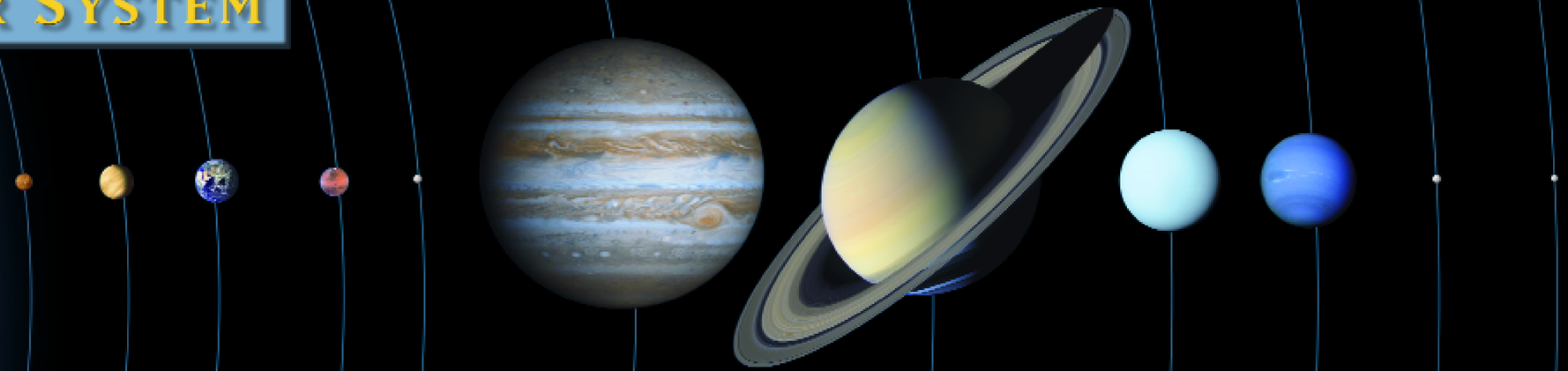
South Africa participates in cutting edge astronomy research from our solar system to the edges of the Universe. Find out about our country's bid to host the biggest radio telescope ever, and our plans for building the Karoo Array Telescope at www.ska.ac.za

Our Solar System

- The Sun, eight planets and three dwarf planets are the largest bodies in our solar system.
- By 2006, 166 moons had been discovered orbiting the planets and dwarf planets.
- There are also thousands of small solar system bodies such as asteroids, meteoroids and comets in our solar system.
- Interplanetary dust is scattered between all these bodies.



THE SUN

The Sun is our closest star and is at the centre of our solar system. The planets all revolve around this extremely hot, giant ball of burning gas! The Sun is about five billion years old. In about another five billion years time it will burn up and collapse to become a white dwarf star the size of Earth.

MERCURY

Mercury is the closest planet to the Sun and therefore very hot. Its surface looks like our Moon, as it is covered in craters.

VENUS

Venus is named after the Greek goddess of love and beauty, because it was the brightest planet known to ancient civilisations. Venus appears very bright as its surface is hidden by dense white clouds.

EARTH

Earth is the third planet from the Sun and the fifth largest in our solar system. As far as we know, it is the only planet in our solar system (and possibly the only place in the Universe) that supports life.

MARS

Since 1965 people have been sending spacecraft to visit our neighbouring planet, Mars. On 15 July 1965 the first photograph of Mars taken by a visiting spacecraft was received at the NASA tracking station at Harte-beesthoek near Johannesburg. Some people believe that humans will be able to live on Mars some time in the future.

CERES

Discovered in 1801, Ceres is 1 000 km in diameter and is now classed as a dwarf planet.

JUPITER

Jupiter is the largest planet in our solar system, made mostly of gas and liquid. The giant red spot on Jupiter is a massive storm that has been raging for more than four centuries.

SATURN

Saturn is a giant planet with rings made of pieces of rock and ice.

URANUS

Uranus rolls along on its side, like a giant bowling ball.

NEPTUNE

With winds reaching up to 2 000 km/hour, Neptune is the windiest planet in our solar system. It is the last of the giant planets that we pass in traveling out from the Sun.

PLUTO ERIS

Why is Pluto no longer a planet?
Pluto was discovered in 1930, but some astronomers always argued that Pluto is too small to be recognised as a ninth planet in our solar system. During August 2006 thousands of astronomers debated Pluto's status at a meeting of the International Astronomy Union (IAU) and re-classified Pluto as a dwarf planet. Pluto's largest Moon is Charon. According to the latest IAU definitions these two objects can be regarded as a "double dwarf planet system". Charon is not in the list of dwarf planets currently recognised by the IAU.

They also recognized two other dwarf planets, Ceres and Eris.

What is a planet?

(IAU definition, 2006)

In the solar system, a planet is a celestial body that:
- orbits (goes around) the Sun
- has sufficient mass so that it assumes a nearly round shape, and
- has cleared its orbit of other celestial bodies.

A dwarf planet may also orbit the Sun and have a round shape, but is not big enough to clear away other large bodies from near its orbit.

What is a moon?

A moon is something that orbits (goes around) another celestial body bigger than itself. Moons are natural satellites of planets.

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NRF National Research Foundation

HartRAO Hartebeesthoek Radio Astronomy Observatory

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