ASTRO-CHAT

Newsletter of the Chatham Kent Astronomy Club

JANUARY 1986 Vol3 No (I)

President
Mike Flegel

Editor
Ray Rogers

P.O. Box 191
Chatham Ont
N7M 5K3

Deadline for
Feb issue is
Jan IOth.

In this issue

2.Annual Report. M.Flegel
3.Treasurers Report. J.Christopher
4.Light Pollution. D.Kahraman
6.Uranus Encounter. R.Cattrysse

Upcoming events

Jan. 3 or 4th. Observing
6th. Council meeting at Jim's
IOth. New Moon
IO or IIth. Observing
26th. Full Moon

HAVE YOU SEEN THE COMET ?

* * * \

VOYAGER 2 CLOSES IN ON URANUS

Robert Cattrysse

Each I75 years the giant outer planets whirl into a pattern that allows a spacecraft launched from Earth to Jupiter to visit them all. Each planets gravity bends the spacecraft's flight path toward the next and increases the velocity.

On August 20,I977 at IO:29a,m.NASA launched the Voyager 2 spacecraft. Voyager I lifted off on September 5,I977. The mission,known as the Grand Tour,took advantage of the next outer planet lineup. Within IO hours after launch Voyager 2 passed the Moon. By November it was furthor out than Mars and in early December it entered the asteroid belt where it was passed by its twin spacecraft,Voyager I. Voyager I made its closest approach to Jupiter on March 5,I979 and Voyager 2 followed on July 9th. Voyager I zipped by Satur n on November I2,I980 and Voyager 2 on August 25,I98I. After encountering Saturn Voyager I began its journey out of the solar system and Voyager 2 began its approach to Uranus.

Uranus was discovered by William Herschel on March I3,I78I and lies I9 Astronomical Units from the sun.Uranus,the seventh planet from the sun, has a diameter of 52300km.Its year is 84 Earth years and its day lasts I5 to I7 hours. The axis about which Uranus spins is tilted 98o from the plane of its orbit,which has an inclination of 0.77o,and an orbital speed of 6.8Ikm per second.Uranus is I5 times more massive than the Earth with an atmosphere composed mostly of hydrogen and helium. Deep down in Uranus, like Jupiter,Saturn and Neptune,is believed to be a rock-ice core. The cold dark planet has a temperature of 58K(-2I5oC). Circling Uranus are five small moons and nine dark rings.

At I:00p.m on January 24,I986 the 824 kg spacecraft will pass I07080 km from the third largest planet in the solar system.This will be the first time a spacecraft has flown by Uranus. From December,I985 to February next year Voyager 2 will observe the Uranian system:the gas giant planet, its 9 rings and 5 known moons:Miranda,Ariel,Umbriel,Titania and Oberon.

Radio signals from Voyager take two hours and 45 minutes to reach Earth from Uranus even though they travel at almost 300000km per second. Pictures released from the Jet Propulsion Laboratory on December 3 showed a fuzzy blue-green ball. One photograph of Uranus showed a yellow spot in the upper left corner of the planet. Some people believe that Uranus has weather patterns. Voyager will tell us if they're right. Also seen were the 5 satellites and barely spotted was the outermost of its dark rings. The spacecraft closes in on Uranus at more than a million kilometres each day. The pictures were taken when Voyager 2 was about 72 million kilometres from the planet. As Voyager 2 leaves Uranus many questions will have been answered about the mysterious planet,but there will be many more questions asked. The planet,its rings and moons will be closely examined. As with Jupiter and Saturn there is no doubt that Voyager's cameras will reveal other satellites and newer mysteries.

Voyager 2 will leave Uranus with still another target. On August 24,I989 I2 years and 4 days after launch,the Voyager 2 spacecraft will encounter the planet Neptune.