ASTRONOMICAL SOCIETY OF FRANKSTON, INC.

P.O. BOX 596, FRANKSTON, 3199

NEWSLETTER OCTOBER, 1986

ANNUAL GENERAL MEETING, WEDNESDAY, NOVEMBER 12th

The November meeting will be held in Room F.6 of the Upper School, Peninsula School, Mt. Eliza, commencing at 8 p.m. The speaker will be Bruce Tregaskis who will speak on Earth's renewable energy resources, this being the talk that Bruce was intending to deliver at the September meeting but was unable to do so as a result of sickness at the time.

The November meeting will also be the Annual General Meeting for 1986 and an election of Office Bearers for 1987 is to be held. Nomination forms for Office Bearers will be distributed prior to the AGM and members are requested to return these as soon as possible, and not more than 7 days before the November meeting, to comply with legal requirements.

DECEMBER BBQ AND OBSERVING NIGHT

The annual end of year BBQ and Observing Night is provisionally scheduled for Saturday, December 6th at the Society Observatory site, Peninsula School. This date is close to first quarter Moon and should allow observation of the Moon in the early evening, and deep sky observing later. More details at a later date.

OBSERVING NIGHT, SATURDAY OCTOBER 25th

The October Observing night will be held at Peninsula School on Saturday, October 25th

commencing at 8 p.m., or if clouded out, the following night, Sunday October 26th will be substituted.

WARNING! STOP and CHECK the access route from the School to the Observatory site before attempting to drive beyond the gate. As of early September the causeway across the gully had been excavated away leaving only a deep ravine. It is not known at the time of writing when access by this route will be restored.

The Moon will be at last Quarter at the time of the Observing Night and will allow Deep Sky Observing and observation of the planets Mars and Jupiter, and in the early evening Mercury, Venus and Saturn.

It is suggested members bring portable instruments as the B. J. Smith telescope mirror may not, by then, have been replaced after re-aluminising.

SOCIETY NEWS

As Bruce Tregaskis was unable to present his talk on Renewable Energy Sources to the September meeting, Peter Norman, at short notice, spoke on the Structure of Matter, describing the early atomic theory of matter and its 20th century developments into the concept of an atomic nucleus, containing most of the mass of the atom surrounded by a cloud of orbiting electrons. Peter described the fundamental particles, protons, neutrons and electrons and the remarkable complexity of recent theories with an apparently ever increasing number of subatomic particles, possibly all derived from the so-called 'quark', and the strange properties of these particles described by such names as

'charm', 'colour' and indeed 'strangeness'.

At the Society's Observing Night on Saturday August 30th Ken Bryant and Bob Heale arrived at the open space in front of the gate leading to the Observatory site and decided to leave their vehicles there, walk across to the Observatory and check the condition of the ground there, intending to avoid getting bogged in mud as had happened to members attending the June Observing Night. However, having walked on past the gate. with torches lighting the way, they soon found themselves, to their astonishment, standing on the brink of a huge excavation some 8 metres deep and 20 - 30 metres wide, where previously had been the causeway leading across the gully to the Observatory site.

Thankful that they had not opened the gate and started to drive into this excavation, they then set about laying branches and pieces of timber across the track to prevent any other persons from heading towards disaster, and after some debate about the amount of cloud in the sky, set up telescopes in the open space on the school side of the gate. Dark sky conditions in between breaks in the clouds allowed good views of Mars, Jupiter, Saturn at varying magnifications, and the location of some well-known planetary nebulae, the Ring Nebula, Saturn Nebula and (very large) the Dumbbell Nebula, before the clouds finally brought observing to a close.

SKY NOTES

Total Eclipse of the Moon, Saturday, 18th October. A total lunar eclipse will occur in the early morning hours of October 18th. The Moon will be in the western sky and as Moonset occurs at 05h.34m only the first part of the eclipse will be visible from our area.

Moon enters penumbra	02h 19.7m
enters umbra	03h 29.2m
Total eclipse begins	04h 40.7m
Total eclipse ends	05h 55.2m
Moon leaves umbra	07h 06.7m
leaves penumbra	08h 16.3mmm

Transit of Mercury, Thursday November 13th. A transit of Mercury, across the face of the Sun as seen from Earth, will occur during daytime on Thursday, November 13th, the first such event since 1973.

The transit may be viewed safely by projection of the Sun's image on a piece of white card held some distance away from the eyepiece of a telescope, and times for the transit (Eastern Australian Summer Time) are as follows:

Ingress, exterior contact	12h 43m 06s
Ingress, interior contact	12h 45m 01s
Egress, interior contact	17h 28m 32s
Egress, exterior contact	17h 30m 27s

'Exterior' and 'interior' here refer to the contact of the visible edges of Mercury's disc with the limb of the Sun.

WARNING! DO NOT under any circumstances attempt to view the Sun directly through any optical instrument; projection is the only safe method of viewing.

To avoid overheating and possible damage of the eyepiece used for projection, the amount of light entering the telescope may be reduced by the use of a cardboard cover over the end of the telescope, this cover having two holes, say 2 cm in diameter, one on each side of the cover, thus retaining definition quality whilst reducing total light and heat. Remember also

when viewing the Sun to cover over the finder telescope completely and align the main telescope by using the shadow on the ground beneath.

Constellations. This season of the year sees the bright winter constellations of Scorpius and Sagittarius disappearing below the western horizon, whilst in the East the familiar summer-time constellations of Orion the Hunter, Taurus the Bull and Canis Major, the Big Dog, are now reappearing.

The zenith is now largely barren of bright stars; however, high in the sky it is possible to locate, with a telescope, two of the brighter galaxies, NGC 253 near Beta Ceti, and NGC 55 near Alpha Phoenix.

NGC 253 is possibly the brightest spiral galaxy easily visible in the Southern sky and together with NGC 55 is located at around 7 million light years distance.

Positions for these two galaxies are -

NGC 253 - RA 00h 45.1m Dec -25° 34'
NGC 55 - RA 00h 12.5m Dec -39° 50'

Close to the northern horizon at this time of the year is the brightest spiral galaxy of them all, the famous Andromeda galaxy M31 to the west of Nu Andromedae.

With a suitably dark sky M31 is easily visible to the naked eye although binoculars or a telescope may be necessary to located this galaxy against the sky glow of Melbourne to our north.

Planets. The Spring of 1986 remains a good

time for planetary observation. Although Mars is now well past opposition, it remains high in the sky and surface features may still be detected in the telescope.

Jupiter, at opposition on September 10, has an equitorial diameter of nearly 50 seconds of arc and is a fascinating object for observation. The four Galilean satellites show continually changing phenomena of occultations, eclipses and transits, while on rare occasions the view of Jupiter may be entirely free of satellites, as once seen by Ken Bryants on the night of April 9th, 1980.

Saturn is now sinking into the west after sunset where also may be found bright Venus, soon to disappear into the Sun's glare, and Mercury, now at its best observing situation for 1986.

THE MOON

New Moon	Nov 2	Dec 2
First Quarter	Oct 10	Nov 9
Full Moon	Oct 18	Nov 16
Last Quarter	Oct 26	Nov 25

COMET WILSON, 1986e

A recently discovered Comet promises, at a later date, to become a naked eye object of about the same brightness as Comet Halley earlier this year. Comet Wilson, in Pegasus in early September, may reach 3rd magnitude next year at about the same time of year, April/May, as Comet Halley in 1986.

President	- Peter Norman	Ph.(059)75-3040
Vice-President	- Bruce Tregaskis	787-2444
Treasurer	- Peter Brown	784-5679
Secretary	- Don Leggett	(059)85-4927