

NIGHT SKY

(all times G.M.T.)

SUN Rises approximately between 06.10 - 07.00
Sets approximately between 17.30 - 16.00

MOON



6th



13th



20th



28th

MERCURY

Mercury will be a morning object at the beginning of the month. It will be at superior conjunction on the 10th.

VENUS

Venus is still an evening sky object. It will be at greatest elongation on the 8th (47°). It will be setting 3 hours after the sun by the end of the month. Mag. -4.5

MARS

Mars will be rising about 2 hours before sun set. It will be low down in the south east sky through the month. Mag. 1.7

JUPITER

Jupiter rises at 20.00 at the beginning of the month. Mag. -2.6

SATURN

Saturn will be setting at about the same time as Jupiter rises. It will be visible low down in the western sky. Mag. .6

URANUS

Uranus will be setting about ½ hour before Saturn. Mag. 5.9

NEPTUNE

Neptune will be setting about the same time as Saturn. Mag. 7.7

R. Gooding



The Wednesday sky before the start of the open evenings was completely clear. This unexpected occurrence was taken full advantage of by the recently reformed Nubular and Faint Objects Section. The section has been meeting on Wednesday evenings now for eleven years, but this was only a front for the real goings on. From time to time it would assume the identity of the Cheshire Cat. Just as the later was adept at disappearing, leaving only its smile, the former was apt to vanish sometimes for years, to be reincarnated as the O.A.S.I. Jobbing Builders Ltd no job to big or to small anything considered. (We specialise in rebuilding old observatories!).

Any members who have not been up to the observatory for the last three years are strongly advised to make the effort, the many hundreds of hours spent in repairing and redecorating the observatory, the stair well and the club room have transformed it beyond all recognition. There is still some work to finish but the end is in sight.

The following evening also had clear skies, everything appeared to be to bid well for the coming weekend. However Spode had only been taking a short brake, the weather for the whole period was forecast to be completely cloudy with no prospect of any clear spells. Undaunted the observatory was opened up on the Friday evening to await to multitude of expected visitors. To the surprise of every one the sky began to clear at 8.00. Between broken cloud the 40 or so visitors were shown Saturn and the Moon.

Saturday evening was similar to Friday with periods of clear sky. The weekend weather court up with us on the Sunday, it remained overcast all evening. This was unfortunate as it proved to be a very popular night for visitors. More than 30 visitors had arrived before the official opening time of 7.30. An estimated 100 visitors attended during the evening. They were entertained with slide shows on the history of the observatory and an introduction to the solar system. Monday evening also gave intermittent clear skies.

In conclusion the open weekend was more successful than than had been predicted at the beginning. An estimated 200 visitors came. The total number was considerably more than this if the school boys who came up each evening is included. The observatory is normally out of bounds to the boys except for the small number who come up on Tuesdays. Full advantage of the open observatory was made and probably the whole school climbed up the stairs in the four evenings, many more than once. At the end we had made about £80 towards society funds.

R. Gooding

David Payne

Early evening in November the constellation Cepheus is high in the northern sky near the central meridian. The brightest star Alpha Cephei is a mag 2.46 star called Alderamin. It has a luminosity of 23 suns and lies at a distance of about 52 light years. An unusual feature of the star is an extremely fast rotation that causes the spectral lines to become very broad and hazy. Alderamin lies on the precessional path of the Earth's pole and will replace Polaris as the pole star in due course. It is next closest to the pole in 7500 A.D.

Beta Cephei or Alfirk is magnitude 3.15 and slightly variable. It is a supergiant star lying about 980 light years away with a luminosity around 4000 suns. The small variability is only about 0.04 magnitudes but is very rapid with a period of only 4.5 hours and is now thought to be caused by physical oscillations in the outer parts of the star.

Alfirk has an 8th magnitude companion star at a distance of 14" and is an easy object for small telescopes. This faint companion star has a luminosity of 50 suns!

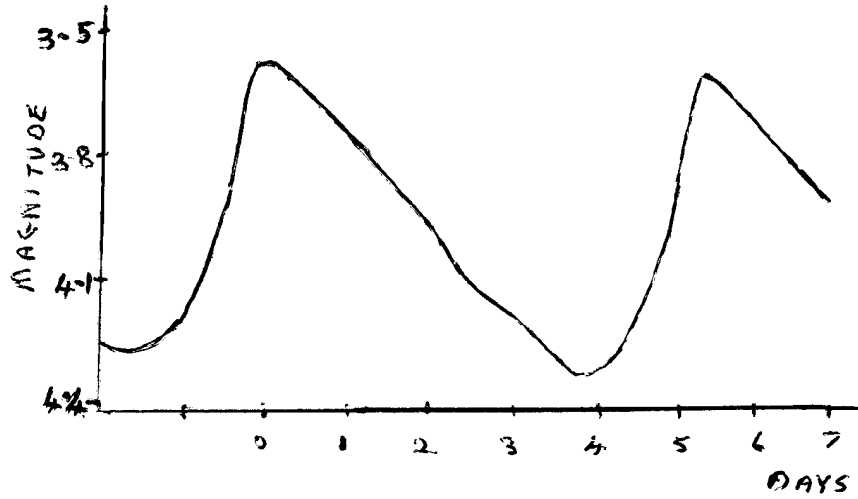
Gamma Cephei named Er Rai is magnitude 3.21 lying at a distance of 50 light years with a luminosity of about 11 suns. Like Alpha Cephei Er Rai lies near the precessional path and will take it's place as pole star in about 2000 years.

Delta Cephei is the archetype Cepheid variable probably the most important class of variable stars in the universe. Delta Cephei has a magnitude range 3.6 to 4.3 with a period 5 days 8 hours and 48 minutes. The variability is caused by regular oscillations in the physical size of the star. This class of stars are supergiants that have evolved off the main sequence into a region of instability where energy can get trapped in

certain shells of material lying below the surface of the star. These shells then periodically expand and contract releasing and then absorbing energy as they do so.

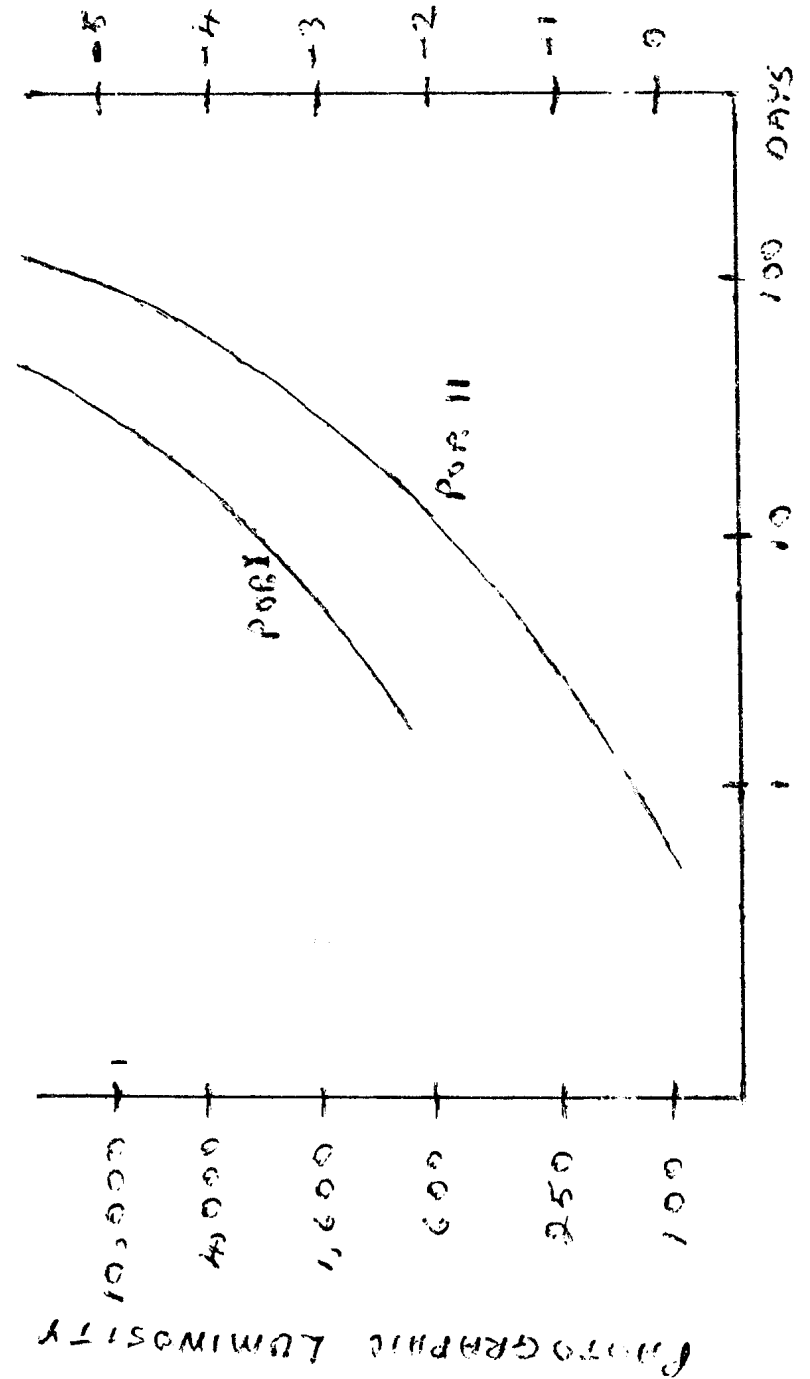
The important feature of Cepheid variables is that there is a definite relationship between the period of the variability and the absolute magnitude. This relationship is now well understood for the two populations that occur for the Cepheid class of variables and enables simple measurements of periods and apparent magnitudes to be converted to distances. Because the Cepheids are supergiant star they can be resolved as individual star in the nearer galaxies and hence are an important tool for distance measurement in the universe.

Delta Cephei is also an easy double star with a companion of magnitude 6.3 at a distance of 41" making it an easy object for small telescopes.



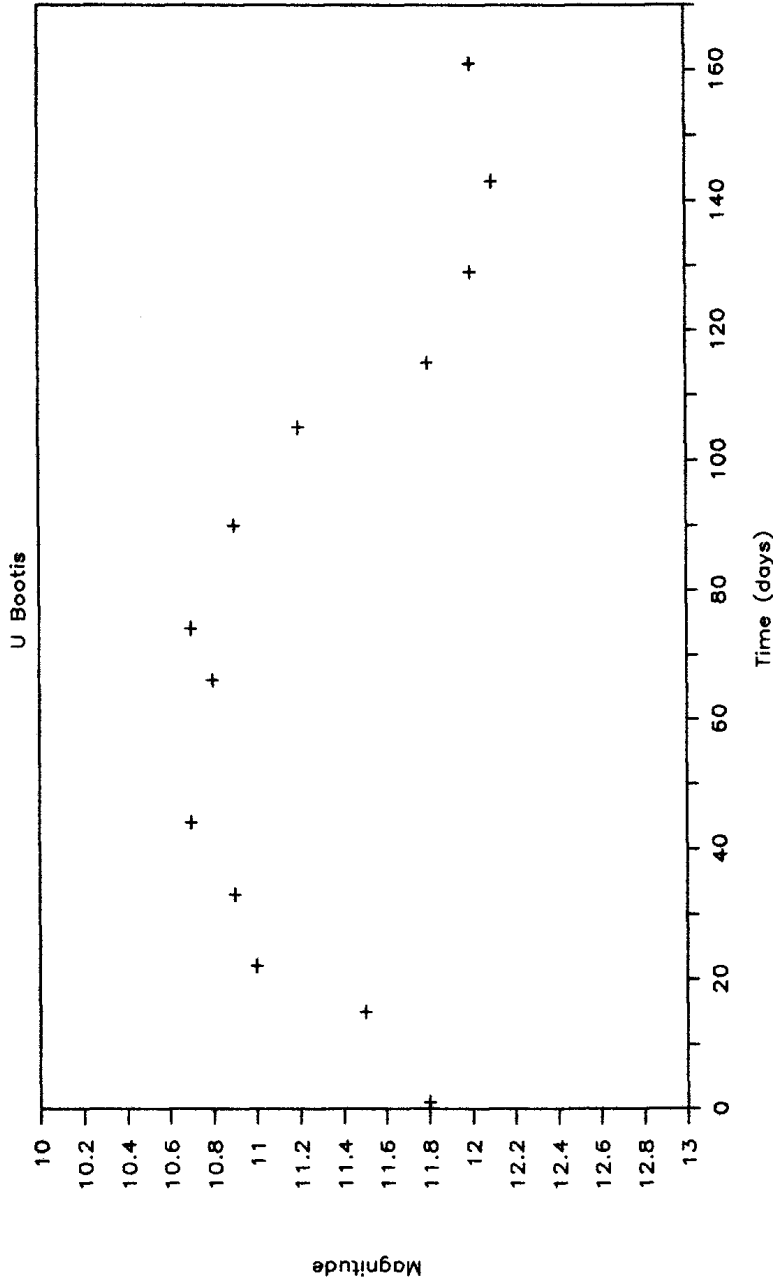
DELTA CEPHEI LIGHT CURVE

PHOTOGRAPHIC ABSOLUTE MAG



CEPHEID PERIOD - LUMINOSITY CURVE

VARIABLE STAR OBSERVATIONS



This light curve shows U Bootis from April to September this year.

Mike Nicholls

PROGRAMME FOR NOVEMBER

Mondays from 8pm GENERAL OBSERVATION SECTION

6-13 Mr R Newman [redacted] Felixstowe, IP11 9DY. Tel. Fel. [redacted]
 20-27 Mr J King [redacted], Felixstowe, IP11 9LQ. Tel. Fel. [redacted]

Tuesdays from 8pm GENERAL OBSERVATION SECTION

7-14 Mr R Newman [redacted] Felixstowe, IP11 9DY Tel. Fel. [redacted]
 21-28 Mr J King [redacted], Felixstowe, IP11 9LQ Tel. Fel. [redacted]

Wednesdays from 8pm NEBULA AND FAINT OBJECTS SECTION

1-8-15 Mr M Cook [redacted], Ipswich, IP4 5PZ Tel. [redacted]
 22-29 Mr D Payne [redacted], Wickham Market, IP13 0SD. Tel.W [redacted]

Fridays from 8pm GENERAL OBSERVATION SECTION

3-10 Mr P R Richards [redacted], Ipswich, IP4 1QB. Tel. [redacted]
 17-24 Mr M Harlow [redacted], Trimley IP10 0XB. Tel. [redacted]
 Mr R A Lobbett [redacted], Felixstowe IP11 8UJ. Tel. [redacted]

All nights are open to all members, but, on nights other than Wednesday ring directors to confirm dates. [Directors will also be able to inform you of whether a group visit is taking place that evening.] All numbers, Ipswich (0473) unless otherwise indicated.

1989 COMMITTEE

CHAIRMAN	D Payne	(Address above)	Home: [redacted] Work: [redacted]
VICE CHAIRMAN	D Barnard	[redacted], Ipswich, IP4 5PP	Home: [redacted] Work: [redacted]
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LIBRARIAN	P Richards	(Address above)	Home: [redacted] Work: [redacted]
EQUIPMENT CURATOR	J King	(Address above)	Home: [redacted]
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