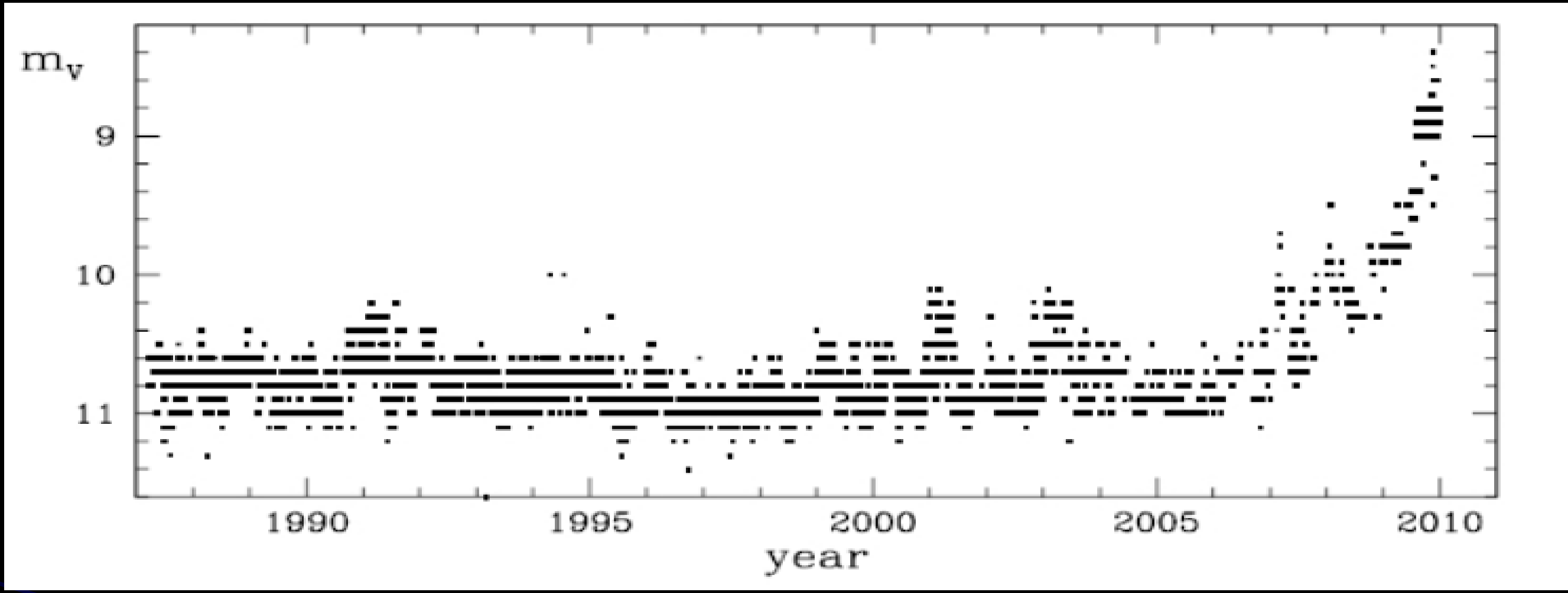
SN1987A Discoverers

- Feb 24.23: Ian Shelton, Las Campanas Observatory, Chile
- Feb 24.33: Oscar Duhalde, Las Campanas Observatory, Chile
- Feb 24.37: Albert Jones, Nelson, NZ
- Feb 24.83: Colin Henshaw, Kadoma, Zimbabwe

Other Eruptive Stars

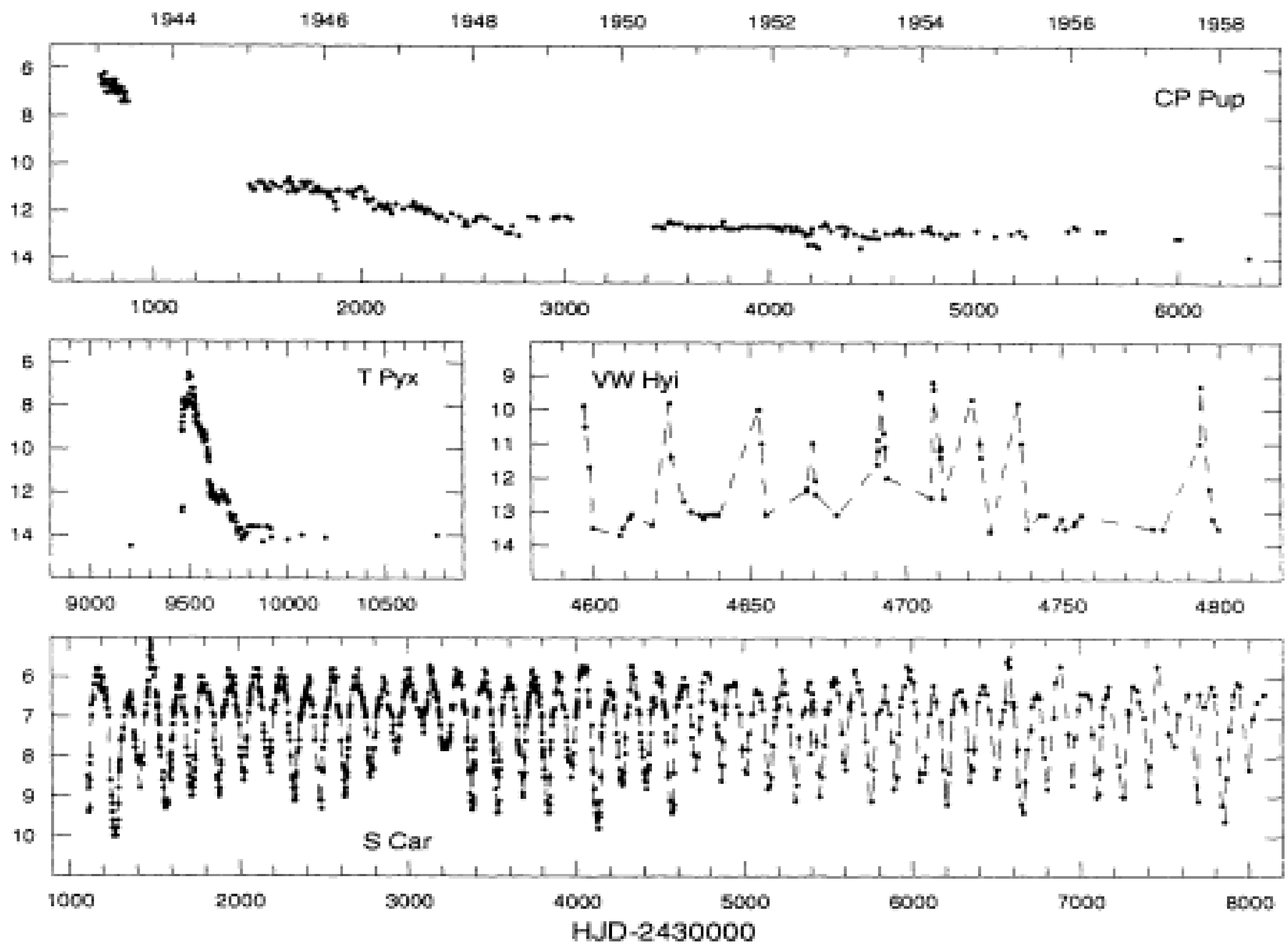
- EX Lup: Bright flare up in 1955-1957
- HD5980: Outburst in 1994
- CPD-56 8032: Renamed V837 Ara
- HDE326823: Renamed V1104 Sco
- HDE269006: Outburst in 2009
- HDE269582: Flare up in 2010
- GSC 9162 0727: Bright state in 2010

R71 = HDE269006



- Luminous blue variable in LMC
- Albert Jones notified Nidia Morrell of outburst in 2009

Assorted Light Curves



R Dor Paper in 1998

Mon. Not. R. Astron. Soc. **301,** 1073–1082 (1998)

Mode switching in the nearby Mira-like variable R Doradus

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ABSTRACT

We discuss visual observations spanning nearly 70 years of the nearby semiregular variable R Doradus. Using wavelet analysis, we show that the star switches back and forth between two pulsation modes having periods of 332 d and about 175 d, the latter with much smaller amplitude. Comparison with model calculations suggests that the two modes are the first and third radial overtone, with the physical diameter of the star making fundamental-mode pulsation unlikely. The mode changes occur on a time-scale of about 1000 d, which is too rapid to be related to a change in the overall thermal structure of the star and may instead be related to weak chaos.

The *Hipparcos* distance to R Dor is 62.4 ± 2.8 pc which, taken with its dominant 332-d period, places it exactly on the period–luminosity (P–L) relation of Miras in the Large Magellanic Cloud. Our results imply first-overtone pulsation for all Miras which fall on the P–L relation. We argue that semiregular variables with long periods may largely be a subset of Miras and should be included in studies of Mira behaviour. The semiregulars may contain the immediate evolutionary Mira progenitors, or stars may alternate between periods of semiregular and Mira behaviour.

Key words: stars: AGB and post-AGB – stars: individual: R Dor – stars: individual: V Boo – stars: oscillations – stars: variables: other.

1 INTRODUCTION

Miras are large-amplitude, long-period variables located near the tip of the Asymptotic Giant Branch (AGB). Traditionally, stars are considered Miras only if their peak-to-peak amplitude at V exceeds 2.5 mag. The periods are typically between 200 and 500 d, although OH/IR stars (a subset of the Miras which show large circumstellar extinction) have periods up to 2000 d. The periods are generally stable, but the maximum and minimum magnitudes can vary from cycle to cycle. Miras with periods longer than 300 d often show evidence for high mass-loss rates.

Mira variability is associated with the thermal-pulsing AGB, where the star alternates between periods of hydrogen and helium burning in a shell around the inert carbon/oxygen core. Mira pulsation occurs during the hydrogen shell-burning phase, when the star is more luminous, although it is possible that some stars also show Mira pulsations during the helium shell flash (the 'pulse'; Wood & Zarro 1981; Zijlstra 1995).

The existence of a well-defined and narrow period–luminosity (P–L) relation for Miras in the LMC (Feast et al. 1989) is evidence that most Miras pulsate in the same mode. The identity of this mode, however, is still controversial. Temperatures and radii of Miras are consistent with first overtone: direct measurements of stellar angular diameters indicate that most Miras are larger and cooler than expected for fundamental mode pulsators (Tuthill et al. 1994; Feast 1996; van Leeuwen et al. 1997). On the other hand, the observed shock velocities in the CO lines are too large to easily be reconciled with any mode other than the fundamental (Wood 1990; Hinkle, Lebzelter & Scharlach 1997).

The semiregular variables differ from classical Miras in showing smaller amplitudes (< 2.5 mag peak-to-peak) and/or less regular pulsations, sometimes with multiple periods. Kerschbaum & Hron (1992, 1994) have argued that some stars classed as semiregulars are closely related to Miras, excluded only because of the restrictive classical definition. These stars could be important for our understanding of Miras, and could include their immediate progenitors.

R Doradus (HR 1492, M8 III) is classified as a semiregular (SRb) with a period of 338 d (Kholopov et al. 1988). This period is within the normal range for Miras, in contrast to most semiregulars, which have periods closer to 150 d. We have recently measured the angular diameter of R Dor to be 57 ± 5 mas, the largest of any star except the Sun (Bedding et al. 1997). We argued that this star is closely related to the Miras, in spite of its more complicated and

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smaller-amplitude variability, on the grounds that *IRAS* images show extended dust emission centred on R Dor (Young, Phillips & Knapp 1993) and the *IRAS* LRS spectrum shows a weak silicate feature (Volk & Cohen 1989). Both indicate dust and mass-loss, which are normally confined to Miras with periods of more than 300 d.

Here we discuss visual observations of R Dor spanning 70 years. We find that R Dor switches between two different modes, one with a Mira-like period and the other with a shorter period more typical of semiregulars. The *Hipparcos* distance is used to show that the longer period fits the Mira P–L relation.

2 OBSERVATIONS BY A. JONES

One of us (AJ) has monitored R Dor over a 23-yr period (1944–1967), producing about 1100 measurements (Fig. 1). R Dor is circumpolar from New Zealand, so there are no yearly gaps in the time series. Although fainter stars are observed using a home-made 317-mm $f/5$ Newtonian reflector, brighter stars such as R Dor are observed using a smaller finder telescope. The magnitudes are estimated by visual comparison with fields of bright standard stars. When making visual estimates, certain precautions were taken to eliminate possible errors which are particularly important for a star as red as R Dor. Observations of red stars are not made in conditions of bright moonlight. When observing a red star it is advisable to make quick glances, otherwise visual observations may overestimate its brightness. To make estimates, each star is brought to the centre of the field before noting its brightness. If the variable and a comparison star are not far apart, the observer's head is oriented so that the line joining the stars is parallel to the eyes. Another issue to be wary of is that the star nearest the observer's nose may seem a little brighter than is the case. When going to the telescope, every effort is made not to recall any previous measurements – the observations reported in this paper have never been plotted by the observer.

Inspection of the data in Fig. 1 shows that the pulsation behaviour of R Dor changed significantly over time. The dashed curve shows a sinusoidal period of 332 d. The peak-to-peak amplitude of the pulsation reached up to 1.5 mag during the late 1940s, after which the variation was much more irregular and of lower amplitude. The presence of variations with a shorter period can be seen, particularly around JD 243 4000.

The Fourier amplitude spectra are shown in Fig. 2, with the data taken both as a whole and also as two subsets. There are two strong periods of 332 d and about 175 d, with the longer period being almost absent in the second part of the time series.

2.1 Wavelet analysis

We have also analysed the observations using wavelets. This technique has been shown by several groups to be a useful tool for investigating period and amplitude changes in long-period variables (Szatmáry & Vinkó 1992; Szatmáry, Vinko & Gál 1994; Gál & Szatmáry 1995b; Szatmáry, Gál & Kiss 1996; Foster 1996; Barthès & Mattei 1997). We have used the weighted wavelet Z-transform (WWZ) developed by Foster (1996) specifically for unevenly sampled data. We experimented with different values for the parameter c, which defines the trade-off between time resolution and frequency resolution (Foster 1996), and settled on $c = 0.005$ as a good compromise.

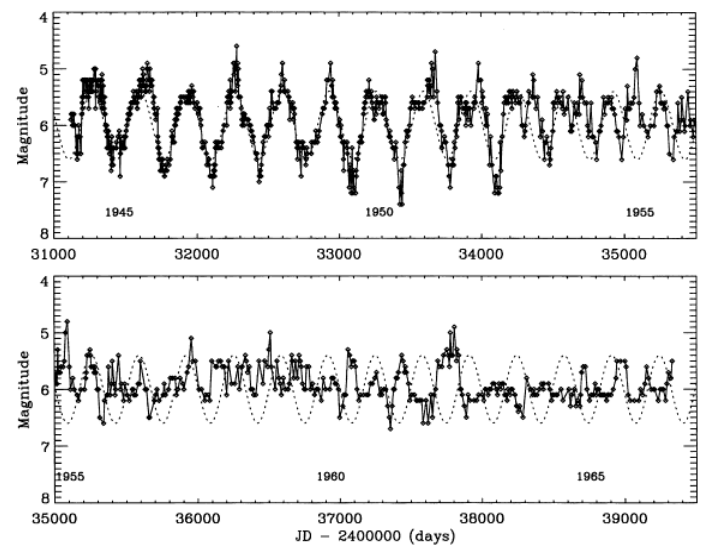

Figure 1. Light curve of R Dor (observations by A. Jones). The dashed curve shows a sinusoid with a period of 332 d.

eta Car Paper in 1999

Eta Carinae at the Millennium
ASP Conference Series, Vol. 179, 1999
J. A. Morse, R. M. Humphreys, and A. Damineli, eds.

Visual Observations of η Carinae

A. Jones

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Abstract. We present a decade of visual estimates of η Carinae extending to the date of this meeting, and compare these estimates with data obtained as early as 1955.

1. Introduction

The most sensational modern data on η Carinae result from ground-based and space spectroscopy and imaging, but the longest stretch of magnitude data has come from visual monitoring. We present a decade of visual estimates of η Car extending to the date of this meeting, and compare these estimates with data obtained since the 1950s.

2. The data

All visual estimates shown in Figs. 1 and 2 were obtained by the author from his home observatory in Nelson, New Zealand (latitude −41°). Part of these data have been published by Jones & Sterken (1997).

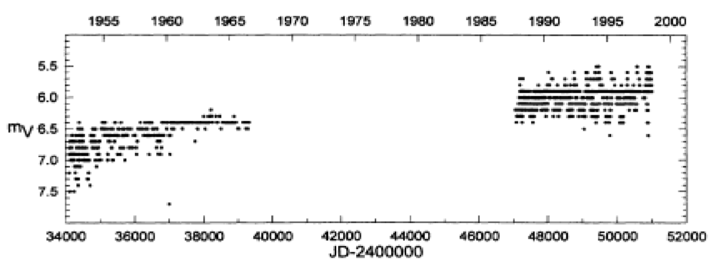

Figure 1. Visual magnitude estimates of η Car covering half a century.

3. Light curves

Figure 1 reveals a steady long-term brightening averaging about 0.02 visual magnitudes per year, and this trend is also present during the last decade. The

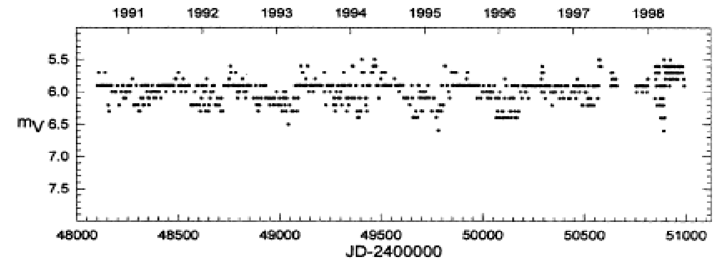

Figure 2. Visual magnitude estimates of η Car: the last eight years.

short-term variability (time scale of about one year) seen in Fig. 2 has a strong component which is partly due to atmospheric extinction color-effects that arise at the high air masses at which η Car is sometimes observed.

References

Jones A.J., & Sterken C. 1997, Journal of Astronomical Data, 3, 3

Z Cir Paper in 2001

COMMISSIONS 27 AND 42 OF THE IAU
INFORMATION BULLETIN ON VARIABLE STARS
Number 5086

Konkoly Observatory
Budapest
23 May 2001
HU ISSN 0374 – 0676

CONFIRMATION OF Z Cir AS A MIRA VARIABLE

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The conclusion by van Hoof (1964) that Z Cir "is almost certainly an R Coronae Borealis star" was based on 326 photographic plates. He particularly noted "the existence of the long-living flat maximum which had been noticed earlier by the Harvard observers."

Subsequently, Feast (1965) reported a spectrum typical of a Mira-type variable. In Figure 1 we show visual observations of Z Cir by AJ that confirm classification as a Mira, with a period of 386 days. The observations do not extend down to minimum light which, from other observations by other RASNZ observers, occurs at visual magnitude 14 to 14.5. The maxima, on the other hand, are well sampled here and show no sign of the flatness reported by van Hoof.

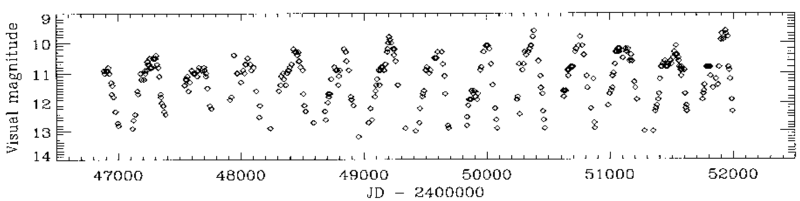

Figure 1. Visual light curve of Z Cir

References:

Feast, M.W., 1965, *IBVS*, No. 87
van Hoof, A., 1964, *IBVS*, No. 41

- Z Cir was originally catalogued as a RCB star
- Albert Jones observations revealed it to be Mira type

L2 Pup Paper in 2002

Mon. Not. R. Astron. Soc. **337**, 79–86 (2002)

The light curve of the semiregular variable L_2 Puppis – I. A recent dimming event from dust

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ABSTRACT

The nearby Mira-like variable L_2 Pup is shown to be undergoing an unprecedented dimming episode. The stability of the period rules out intrinsic changes to the star, leaving dust formation along the line of sight as the most likely explanation. Episodic dust obscuration events are fairly common in carbon stars but have not been seen in oxygen-rich stars. We also present a 10-μm spectrum, taken with the Japanese *Infrared Telescope in Space* satellite, showing strong silicate emission that can be fitted with a detached, thin dust shell, containing silicates and corundum.

Key words: stars: AGB and post-AGB – stars: individual: L_2 Pup – stars: mass-loss – stars: oscillations – stars: variables: other.

1 INTRODUCTION

L_2 Puppis (HR 2748, HIP 34922) is a bright nearby red giant with a pulsation period of approximately 140 d. Its spectral type of M5e III and luminosity of 1500 $L_\odot$ indicate that it is evolving towards the tip of the asymptotic giant branch (AGB). Evidence for mass loss at a rate of 3×10^{-7} $M_\odot$ yr^{-1} (Jura, Chen & Plavchan 2002) supports this. L_2 Pup is possibly the nearest star in this evolutionary phase, at a *Hipparcos* distance of 61 ± 5 pc. Among known long-period AGB stars, only R Doradus has a similar distance. At 12 μm, L_2 Pup is among the 15 brightest sources in the *IRAS* point source catalogue.

L_2 Pup is unusual in several respects. First, it shows a high degree of optical polarization, with a variable wavelength dependence that implies a long time-scale for the growth and dissipation of dust grains (of the order of a decade; Magalhaes et al. 1986). Secondly, CO measurements by Kerschbaum & Olofsson (1999) indicate a very low expansion velocity (~2.5 km s^{-1}), which led them to label L_2 Pup as an extreme case, with one of the smallest expansion velocities ever measured for an AGB star. The slow wind from L_2 Pup led Winters et al. (2000, 2002) to suggest that this star could represent their B-model, in which mass loss is driven entirely by pulsations, without any significant input from radiation pressure on dust grains. This has been further discussed by Jura et al. (2002), who modelled the mass loss and suggested that the pulsations may be non-radial.

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Thirdly, as we report here, this star has shown a remarkable change in mean visual magnitude over the past century, and is currently undergoing a dramatic dimming. We present visual and infrared photometry that characterizes this behaviour, and argue that the most likely cause is the formation of dust along the line of sight. We also present the first 10-μm spectrum of L_2 Pup, obtained with the Japanese Japanese *Infrared Telescope in Space* (*IRTS*) satellite, which shows strong silicate emission.

2 LIGHT CURVE

2.1 Visual observations

We have analysed visual observations of L_2 Pup from the following sources: the Royal Astronomical Society of New Zealand (RASNZ; 12 100 measurements by 110 observers, including 1100 by A. Jones), the Variable Star Observers League in Japan (VSOLJ; 792 measurements by six observers) and the Association Francaise des Observateurs d'Etoiles Variables (AFOEV; 389 measurements by three observers). Only data from individual observers contributing 30 or more observations were used and we did not attempt to correct for offsets between observers. The top panel of Fig. 1 shows the combined data, binned to 10-d averages.

The variation in mean magnitude is evident. Before 1945 the data are too patchy and/or noisy to reach strong conclusions. However, it is clear that the star faded significantly after 1960, recovering around 1975 but remaining fainter by ~0.5 mag compared with the 1950s. Recently, starting around 1994, a dramatic fading has occurred. Even at maximum, the star now

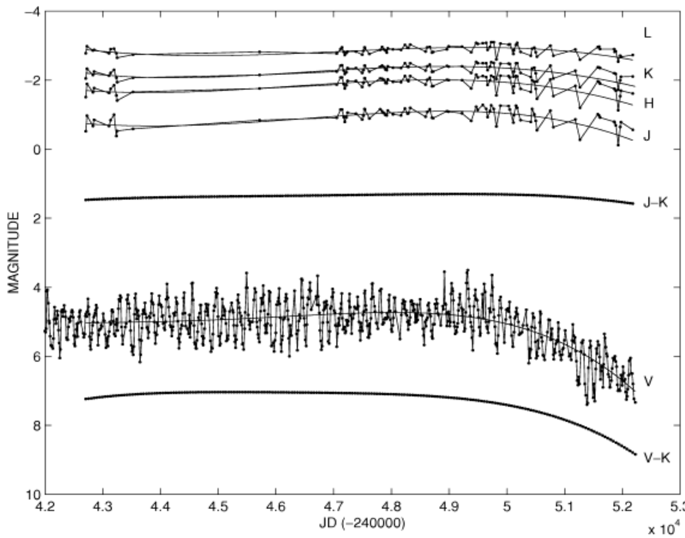

Figure 2. Infrared and visual photometry for L_2 Pup.

Table 2. Pre-dimming and present mean magnitudes and colours of L_2 Pup.

	Pre-dimming	Present
V	4.8	6.8
J	−1.03	−0.25
H	−1.94	−1.25
K	−2.34	−1.8
L	−2.91	−2.7
$V–K$	7.0	8.5
$J–K$	1.31	1.55
m_{bol}	0.73[a]	1.3[a]

[a] Assuming no extinction correction.

star has not changed significantly. The period variations that are observed in L_2 Pup are similar to those seen in many semiregular variables and are most probably caused by the influence on pulsation driving by random convective excitation (Christensen-Dalsgaard, Kjeldsen & Mattei 2001). We discuss this in more detail in Paper II (Bedding et al., in preparation).

The period is stable on the same time-scales over which the mean magnitude is variable, which argues that radius changes cannot be part of the explanation of the dimming. If we assume a constant radius, we could still produce the observed change in m_{bol} if the temperature decreased by ~400 K. Such a temperature change cannot be ruled out but would require fine tuning. Furthermore, such a large change in stellar luminosity over a time-scale of a decade only occurs in AGB stars in the immediate aftermath of a thermal pulse. Finding any star in such a short-lived phase is very unlikely. In any case, the thermal-pulse scenario can also be ruled out because, during this phase, the radius contracts strongly and the period shortens (e.g. Vassiliadis & Wood 1993), which is not observed in L_2 Pup.

It is therefore unlikely that either the radius or the luminosity of the star has changed. This points towards variable extinction as the cause of the dimming.

3.2 Extinction from circumstellar dust

The plausible cause of the fading in L_2 Pup is extinction by circumstellar dust, which would not affect the amplitude or period of pulsation of the underlying star. Extinction laws for interstellar dust are well studied and predict less extinction as one moves to longer wavelengths. This is certainly the case for L_2 Pup, as can be seen from Fig. 2: the decline is much less dramatic in *JHKL* than in *V*.

Direct evidence for extinction comes from the present *J–K* and *K–L* values, which are among the reddest of the M-type variables in the sample of Whitelock et al. (2000). All stars with such red colours have *K*-band amplitudes greater than 0.7 mag, while the amplitude for L_2 Pup is only 0.29 mag at *K*. In fact, both ΔK and δHp (0.71) are small compared with M-type variables. This large

V837 Ara Paper in 2004

Asymmetric Planetary Nebulae III
ASP Conference Series, Vol. 313, 2004
M. Meixner, J. Kastner, B. Balick and N. Soker eds.

The Dual Dust Chemistry - Binarity Connection

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Abstract. Accumulating evidence points to a binary nature for the Wolf-Rayet ([WC]) central stars, a group that constitutes about 15% of all central stars of planetary nebula. From ISO observations, a dual dust chemistry (oxygen- and carbon-rich) has been shown to be almost exclusively associated with [WC] central stars, a fact that could be explained by O-rich dust residing in a disk, while the C-rich dust is more widely distributed. HST/STIS spatially resolved spectroscopy of the [WC10] central star CPD–56°8032 is interpreted as revealing a dust disk or torus around the central star. This, together with CPD–56°8032's variable lightcurve, is taken as an indirect indication of binarity. Finally, we present here, for the first time, preliminary results from a radial velocity survey of central stars. Out of 18 stars with excellent data at least 8 are radial velocity variables. If these turn out to be binaries, it is likely that the central star binary fraction is as high as ∼50%.

1. Prologue

WC Wolf-Rayet central stars of planetary nebulae ([WC] central stars of PNe) are H-deficient stars that exhibit strong ionic emission lines of helium, carbon

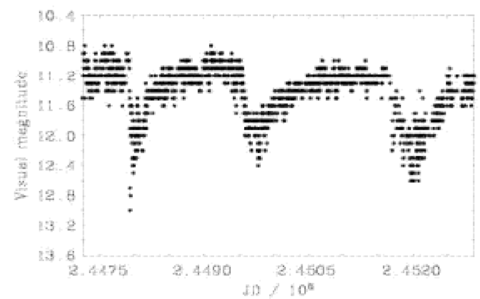

Figure 1. The visual lightcurve of CPD–56°8032 between March 1988 and September 2003.

Marco & Crowther 1998). CPD–56°8032's putative companion could plausibly be a low mass main sequence star, such as a K dwarf.

Interestingly, the Red Rectangle, also a binary, is the only system to have a double dust chemistry and a central star which is *not* hydrogen-deficient. From this we could suggest that the Red Rectangle's A supergiant central star (the other is thought to be an unseen white dwarf; Men'shchikov et al. 2002) might be on its way to becoming hydrogen deficient.

The conjecture that [WC] stars are binary systems is in harmony with the fact that binarity is generally known to promote mass-loss. For instance, all the massive Wolf-Rayet stars in the metal-poor Small Magellanic Cloud are binaries. This has been explained with the fact that the low metallicity of the SMC leaves its stars with atmospheres with relatively low opacities, too low to develop the dense Wolf-Rayet winds. Hence the only massive Wolf-Rayet stars possible in the SMC are those where a companion has facilitated mass-loss.

A direct detection of binarity via radial velocity monitoring (see Section 3), is unlikely in the case of [WC] central stars, because of their intrinsically variable (e.g. Balick et al. 1996), broad emission lines.

3. Preliminary Results of a Central Star Radial Velocity Survey

There are increasing indications that binary-star processes are intimately related to the ejection of many, or possibly even most, PNe. The evidence includes: the fact that ∼10% of PN nuclei are found to be very close binaries (periods of hours to a few days; Bond & Livio 1990, Bond 2000) through photometric monitoring; population-synthesis studies suggesting that these may be just the short-period tail of a much larger binary population extending up to orbital periods of several months (Yungelson et al. 1993, Han et al. 1995); and the prevalence of highly non-spherical morphologies among PNe.

The photometric search technique does not work for binaries with periods of more than a few days, since it relies on proximity effects. We have therefore

V837 Ara (formally CPD-56 8032)

- Central star of PK 332.9-09.9
- Commenced monitoring in June 1990
- Was officially designated V837 Ara on basis of Jones observations

AR Pav Paper in 2004

Contrib. Astron. Obs. Skalnaté Pleso **34**, 45 – 69, (2004)

Photometry of symbiotic stars

XI. EG And, Z And, BF Cyg, CH Cyg, CI Cyg, V1329 Cyg, TX CVn, AG Dra, RW Hya, AR Pav, AG Peg, AX Per, QW Sge, IV Vir and the LMXB V934 Her

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Abstract. We present new photometric observations of EG And, Z And, BF-Cyg, CH Cyg, CI Cyg, V1329 Cyg, TX CVn, AG Dra, RW Hya, AG Peg, AX Per, IV Vir and the peculiar M giant V934 Her, which were made in the standard Johnson $UBV(R)$ system. QW Sge was measured in the Kron-Cousin B, V, R_C, I_C system and for AR Pav we present its new visual estimates. The current issue gathers observations of these objects to December 2003. The main results can be summarized as follows: **EG And**: The primary minimum in the U light curve (LC) occurred at the end of 2002. A 0.2 – 0.3 mag brightening in U was detected in the autumn of 2003. **Z And**: At around August 2002 we detected for the first time a minimum, which is due to eclipse of the active object by the red giant. Measurements from 2003.3 are close to those of a quiescent phase. **BF Cyg**: In February 2003 a short-term flare developed in the LC. A difference in the depth of recent minima was detected. **CH Cyg**: This star was in a quiescent phase at a rather bright state. A shallow minimum occurred at $\sim$ JD 2 452 730, close to the position of the inferior conjunction of the giant in the inner binary of the triple-star model of CH Cyg. **CI Cyg**: Our observations cover the descending branch of a broad minimum. **TX CVn**: At/around the beginning of 2003 the star entered a bright stage containing a minimum at $\sim$ JD 2 452 660. **AG Dra**: New observations revealed two eruptions, which peaked in October 2002 and 2003 at $\sim$ 9.3 in U. **AR Pav**: Our

* Visiting Astronomer, San Pedro Observatory

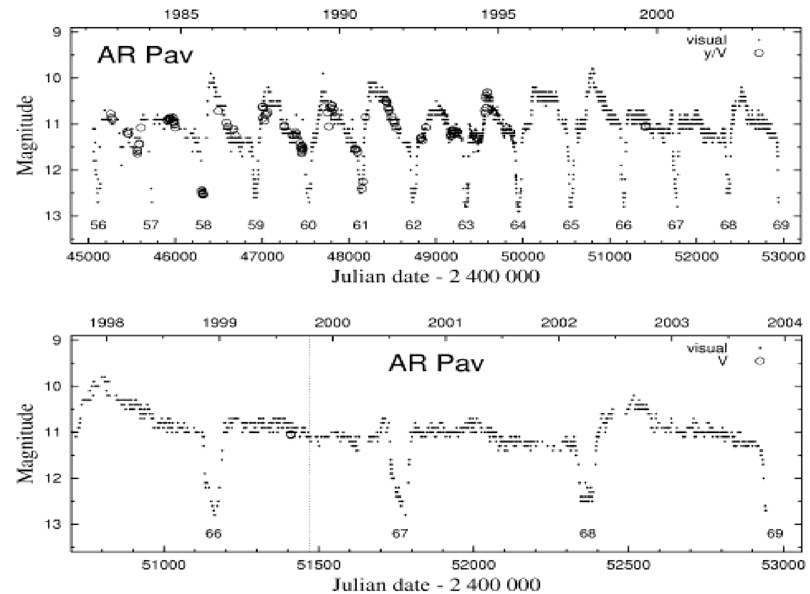

Figure 8. Top: Our visual estimates from 1982.2 to date (made by Albert Jones). Bottom: Recent evolution covering a low stage between epochs 66 and 68.

followed by a rapid decrease of the light. Its phase position ($\varphi \sim 0.72$) and other characteristics are similar to that observed in the BF Cyg LC (Sect. 3.3).

3.13. QW Sge

Figure 11 shows our CCD B, V, R_J, I_J photometry. We converted our measurements in the I_C and R_C bands of the Cousins system into the Johnson system according to Bessell (1983) by using his transformation equations for M giants:

$$(V-R)_J = 2 \times (V-R)_C - 0.48, \qquad (R-I)_J = (R-I)_C + 0.10. \qquad (1)$$

Observations cover the period from 1994.5 to 2003.5 and are given in Table 12. Particularly interesting part of the LCs includes an active phase, which began

IV Vir Paper in 2004

Contrib. Astron. Obs. Skalnaté Pleso **34**, 45 – 69, (2004)

Photometry of symbiotic stars

XI. EG And, Z And, BF Cyg, CH Cyg, CI Cyg, V1329 Cyg, TX CVn, AG Dra, RW Hya, AR Pav, AG Peg, AX Per, QW Sge, IV Vir and the LMXB V934 Her

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Abstract. We present new photometric observations of EG And, Z And, BF-Cyg, CH Cyg, CI Cyg, V1329 Cyg, TX CVn, AG Dra, RW Hya, AG Peg, AX Per, IV Vir and the peculiar M giant V934 Her, which were made in the standard Johnson $UBV(R)$ system. QW Sge was measured in the Kron-Cousin B, V, R_C, I_C system and for AR Pav we present its new visual estimates. The current issue gathers observations of these objects to December 2003. The main results can be summarized as follows: **EG And**: The primary minimum in the U light curve (LC) occurred at the end of 2002. A 0.2 – 0.3 mag brightening in U was detected in the autumn of 2003. **Z And**: At around August 2002 we detected for the first time a minimum, which is due to eclipse of the active object by the red giant. Measurements from 2003.3 are close to those of a quiescent phase. **BF Cyg**: In February 2003 a short-term flare developed in the LC. A difference in the depth of recent minima was detected. **CH Cyg**: This star was in a quiescent phase at a rather bright state. A shallow minimum occurred at ~JD 2 452 730, close to the position of the inferior conjunction of the giant in the inner binary of the triple-star model of CH Cyg. **CI Cyg**: Our observations cover the descending branch of a broad minimum. **TX CVn**: At/around the beginning of 2003 the star entered a bright stage containing a minimum at ~JD 2 452 660. **AG Dra**: New observations revealed two eruptions, which peaked in October 2002 and 2003 at ~9.3 in U. **AR Pav**: Our

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based on the extent of the nebula, was suggested by Skopal (2001).

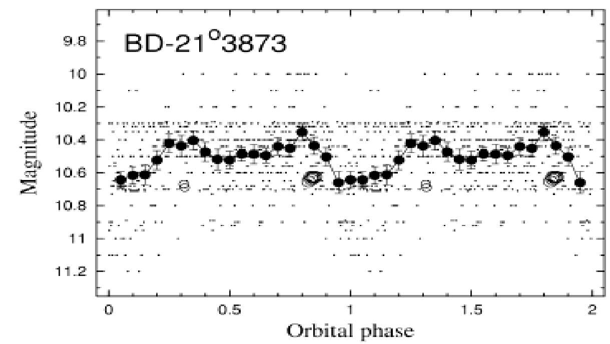

Figure 9. As in Fig. 7, but for IV Vir.

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Comet Work

- 1945: Joined BAA & NZAS Comet Sections
- 1945: Independently recovered P/Kopff
- 1946: Discovered C/1946P1 near U Pup
- 1952-1990: Assistant Director of the BAA Comet Section
- 2000: Co-discovered C/2000 W1 near T Aps
- 54 year interval between discoveries
- Oldest person (80) to discover a comet "communications have come a long way since my first discovery"

Memo Recording his star observations in his shed.

With Heather Couper in 1995

Heather Couper, Peter Knowles, Albert Jones | 30 July 1995

With Patrick Moore in 1997

Albert & Carolyn Jones in 2004

With Frank Bateson in 2004

Tribute from Frank Bateson in 1959

- “I would like to record the magnificent contribution that has been made to our Section’s work by Albert Jones of Timaru. The skill and accuracy of his observations are matched only by their persistency and numbers.”

Honours, Awards & Medals (1)

- 1945: Murray Geddes Memorial Prize
- 1947: Donohoe Comet Medal from the ASP
- 1949: Donovan Medal & Prize from the Donovan Astronomical Trust (NSW)
- 1956: Michaelis Gold Medal & Prize from the University of Otago
- 1960: Jackson Gwilt Medal & Gift (jointly with Frank Bateson) from the RAS

Honours, Awards & Medals (2)

- 1968: Merlin Medal & Gift from the BAA
- 1973: Bronze Comet Medal from the ASP
- 1987: Officer of the Order of the British Empire (OBE)
- 1988: Minor Planet 3152 Jones named by discoverers Alan Gilmore & Pamela Kilmartin
- 1997: Directors Award from the AAVSO
- 1998: Steavenson Memorial Award from the BAA

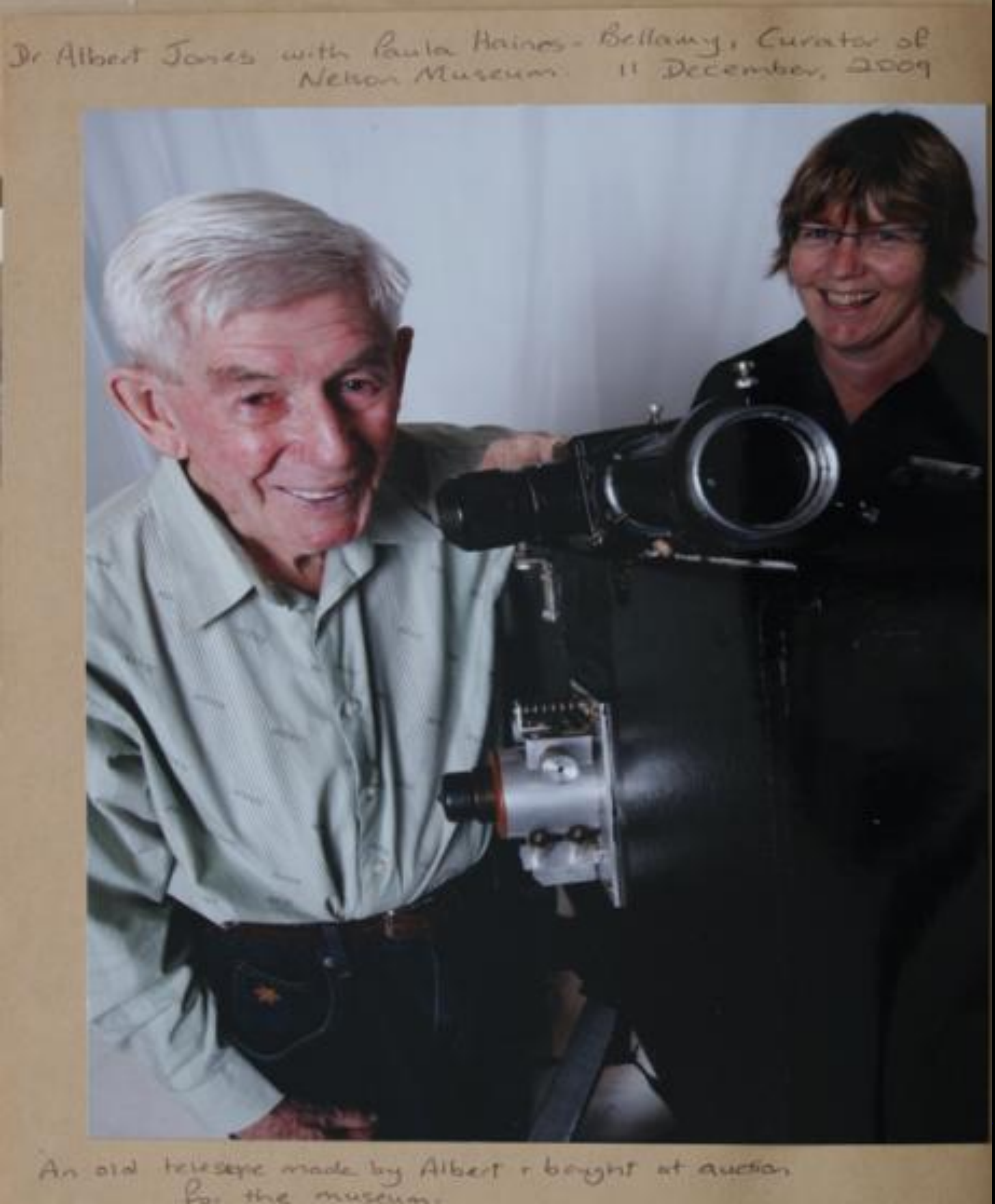
Honours, Awards & Medals (3)

- 1998: Edward A Halbach Amateur Achievement Award from the ASP
- 2001: Edgar Wilson Award from the SAO
- 2004: Honorary Doctorate of Science from Victoria University, Wellington
- 2005: Murray Geddes Prize (jointly with Carolyn Jones)
- 2008: Merit Award from the AAVSO
- 2011: Honorary life membership of the AAVSO

Honorary Doctorate of Science
Victoria University, Wellington

Inputting Observations in 2009

And working at his computer that stores all his work – Dec '09



Nelson Museum in 2009

- Instrument shown was constructed by Albert Jones and purchased at auction for the museum

Final photo of LESBET in 2011

- In April 2011 the Nelson Museum took custody of LESBET

12.5" Dobsonian in 2011

Observing Aged 90+

- Carolyn helps me get going then she comes to the door and calls to ask if I am alright several times an hour. Then helps me when I have finished and come back inside. Carolyn would stay up later if there was something urgent for me to observe but I have asked Rod Stubbings and Eric Blown to monitor important stars so I can relax knowing these stars are being monitored without me

Quotations

- Sorry for the delay, I am recovering from another fall and broken collar bone - Tad C Nile
- My proper motion is rather slow and I have to be careful not to fall over again – Gerry Attrick
- Being a mere amateur has the advantage that I can observe what I want to observe and whenever I wish
- My greatest discovery is my wife Carolyn
- Quote from Carolyn: “Yes, he has only found one supernova, but it was a GOOD one”

Observations of V339 Del on 15th September 2013 at 23:00UT

- 20:58: John Toone
- <21:00: Mike Gainsford
- 22:01: Andy Wilson
- 23:00: David Connor
- 23:00: Tom Lloyd-Evans
- 23:05: Bjorn Granslo
- 01:00: Denis Buczynski
- 15th & 17th Arne Henden
- 14th & 16th Jonathan Shanklin

Some VS Observing Facts

1. His first observation was of CP Pup at mag 6.3 on 18th January 1943
2. His last observation was of V766 Cen at mag 7.1 on 31st August 2011
3. His observing career (age 22-91) spanned 68 years and 225 days
4. He averaged 20 observations daily, 600 observations monthly & 7,500 observations annually

At Government House in 1987

Credits

- Mike Brogden
- Kath Burrows (East Riding Archives, Beverley, Yorkshire)
- Bob Evans (RASNZ)
- Alan Gilmore (RASNZ & Mt John Observatory)
- Arne Henden (AAVSO)
- Carolyn Jones
- Seiichiro Kiyota (VSOLJ)
- Bruce Leadley (Timaru High School Old Boys Association)
- Steven Lee (AAT)
- Brian Loader (RASNZ)
- David Malin (AAT)
- Ashley Marles
- Bob Marriott (BAA)
- Linda McGregor (Alexander Turnbull Library, Wellington, NZ)
- Ranald McIntosh (VSS RASNZ)
- Michael Saladyga (AAVSO)
- Jonathan Shanklin (BAA)
- Chris Sterken (University of Brussels)
- Rod Stubbings (VSS RASNZ)
- Elizabeth Waagen (AAVSO)
- Peter Williams (VSS RASNZ)