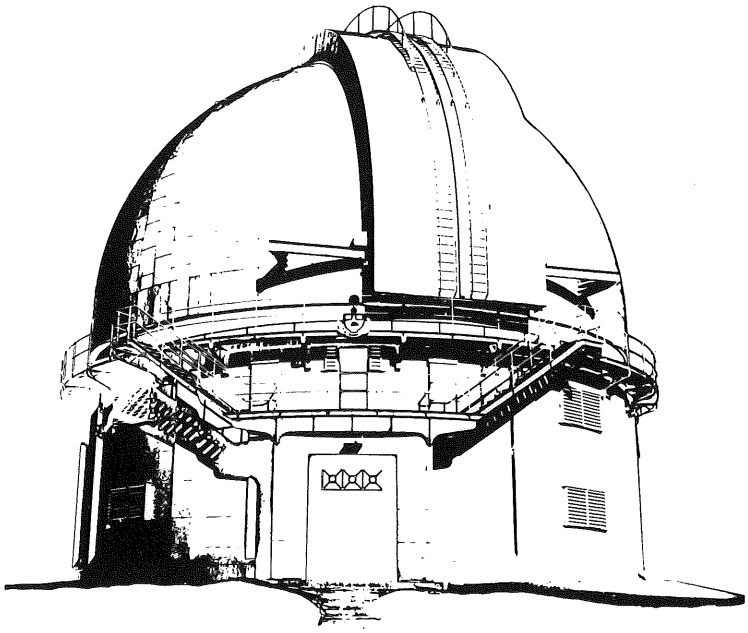

THE DAVID DUNLAP DOINGS

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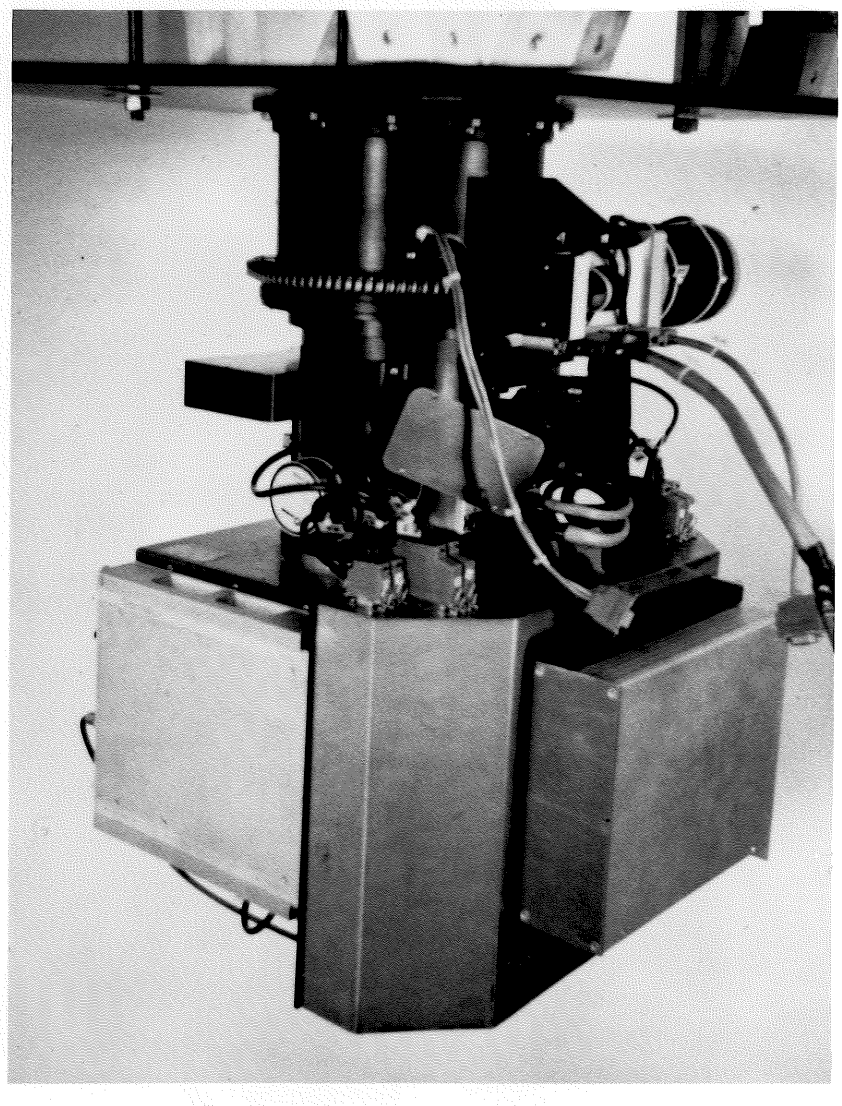

The CFHT Polarimeter during testing at DDO.

Cover Story page 3.

Photo: Karl Kamper

CONGRATULATIONS

OUR CONGRATULATIONS TO *Charles Dyer* AND *Stefan Mochnacki* WHO HAVE BEEN APPOINTED TO THE GRADUATE FACULTY IN THE DEPARTMENT OF ASTRONOMY.

John Harper, 3RD YEAR ASTRONOMY SPECIALIST AT SCARBOROUGH COLLEGE, HAS BEEN AWARDED AN NSERC SUMMER AWARD. HE WILL BE WORKING WITH CHARLES DYER.

THE DAVID DUNLAP DOINGS Vol. 15, No. 3 April 2, 1982
Published at the David Dunlap Observatory, Box 360, Richmond Hill, Ontario L4C 4Y6
Editors: Donald A. MacRae and Peter G. Martin

Cover Story

The CFHT Polarimeter

by Peter Martin

1982 is another year of growth for the CFHT as many new instruments for the Cassegrain focus are commissioned. One of these, the "Photoelectric Filter Polarimeter", was constructed at DDO, is now being integrated with its software at the CFHT headquarters in Waimea and will be tested at the telescope in July.

A. The Polarimeter

It is rather difficult to describe in a short space the design of the polarimeter. First, some of what you cannot see in the picture, the *optical train:* aperture, collimating lens, optical ¼ waveplate for measurements of linear polarization, electrically-switched ¼ waveplate (Pockels cell), beam splitting polarization analyser (Wollaston prism), optical filters, optical tilting interference filters, Fabry lens, RCA C31034A phototubes (3300Å - 8700Å).

At the top, the polarimeter is attached to the bonnette with a system of trusses which envelop the "photometer head". The photometer head (not shown) is basically the CFHT photometer minus the cold box, all manufactured at the Observatoire de Lyon. We use the head for acquisition and guiding (tilted polished apertures and TV viewing system) and to carry calibration polaroids.

In the cylindrical section, between the head and the double cold box at the bottom, are the optics. The whole lower section can be rotated with a large stepping motor through 315° so that all Stokes parameters can be measured independently and redundantly. Stepping motors also position the waveplate wheel and filter slide and tilt the interference filters. The darkslide is solenoid driven.

The *electronics* is partly housed on the cold box, partly on the trusses and partly in a CAMAC crate and a NIM bin which are on the Cassegrain base of the telescope (not shown). Included are discriminators, scalers, stepping motor control, encoder control and muliplexing, 3 programmable high voltage power supplies, a Pockels cell switching unit, temperature stabilization and monitors, and a multistage network of "failsafes" to protect the phototubes from too much light (we assumed the worst about observers but probably didn't foolproof it enough to foil the mischievous!).

The *software* consists of several components within the CFHT DAIC computer. There is a CFHT-standard dialog program, running under the HP RTE VI operating system, through which the observer controls the sequence and specifications of observations. Nodding the telescope is achieved by handshake with the TCS computer. Date acquisition is by an interrupt service routine (assembler language) which loads photon counts into a circular buffer. The main data handler and processor is written in "C", though some FORTRAN subroutines are called. CAMAC drivers are also written in "C". FORTH has been used for development work and testing but will not be needed for the user package.

Performance. Previous generations of this instrument can routinely measure a Stokes parameter to a few parts in 10^4. Systematic and instrumental errors in this version should be even smaller. This accuracy is not always desired, nor can it always be achieved for faint objects for which photon counting noise predominates.

I believe, and certainly intend, that this instrument will be easy to use even for the novice. In principle this instrument could be run *remotely*; nothing in the software or design precludes this interesting possibility.

B. Construction

A design contract was awarded to John Landstreet of U.W.O. during 1977. For the record, the lineage of the polarimeter is the DDO polarimeter (circa 1975, most famous for its trip to Israel on the BL Lac monitoring program), the Angel polarimeter (circa 1973) at Steward Observatory and the U.W.O. polarimeter which was an early Angel-Landstreet collaboration. The basic idea of the optical train is the same. There has been major evolution, however, in the mechanical design, the aim for the CFHT version being for complete automation of all functions (except loading the dry ice!). The design was "finalized" for a contract start in 1978 but did evolve somewhat since, thanks to the imaginative staff at DDO.

I was awarded the contract for construction at DDO and the polarimeter gradually took shape in bursts of activity from the spring of 1978 to January 1982. A major activity outside of the machine shop, where *Dave Earlam* and at times *Archie Ridder* were hard at work, concerned a mass of electronics associated with data collection and instrument automation (via CAMAC). This called for additional design work and construction on the part of *Tony Estevens*, ably assisted by *Frank Hawker*, *Larry Morrill* and *Shenton Chew*. It was a rewarding collaborative effort, in close contact with John Landstreet too.

The polarimeter took its first steps in May 1981, controlled by the DDO Nova 1220 attached to Bob McLaren's CAMAC crate. Try as I might I could not generate any major problems, even with the eager assistance of *Bill Cruise*, of CFHT. Tony, Shenton, Dave and I orchestrated the final shakedown and troubleshooting during January 1982 and then I skipped off to Hawaii en famille. The polarimeter soon followed, though it took most of the DDO staff and several graduate students to carry it in its packing crate out of the basement. The polarimeter had survived the installation of the sprinkler system, and DDO had survived the polarimeter!

C. Hawaii

I was relieved to see the crates arrive seemingly intact in Waimea. Everyone was very impressed with the careful packing job (not the norm apparently) and coveted the beautiful mahogany "stereo cabinet" for storage, constructed by Dave Earlam (I think they even liked the classy look of the polarimeter). Despite our best packing efforts - or perhaps inspired by them - some enterprising airline agents arranged for a large jolt or two en route that successfully jammed the main bearing. I managed to fix this myself in about a day, although it meant taking apart about half of the polarimeter. It wasn't all that straightforward, and at one point while standing amongst 68 ball bearings on the floor of the electronics shop I wondered whether I should have stayed at the beach.

My visit to Waimea was purportedly to finalize the flow charts for the software in consultation with Bill Cruise who has to make it work! Indeed this was a productive collaboration. In the end the system will not only manage the observation in a friendly and optimal way but it will also reduce the data, including all instrumental corrections. This feature of on-line data ready for publication may be unique to this instrument package.

This being our first trip to Hawaii, Camie, Nicholas and I took the opportunity to see the sights, the highlights being Volcano National Park and Hapuna beach. The hospitality of all CFHT personnel was warm, and we enjoyed being entertained by our old friends the Racines and Campbells.

I am also pleased to report that Peter Wizinowich is fitting in well at CFHT, both by his own account and by those of his new associates, who call him "the wiz". Peter shows good signs of cultural adaptability, having purchased a shiny new 4-wheel drive jeep and been seen (by me) windsurfing at the Hilton (even the Director windsurfs!). He is also active in tennis, soccer and even operating the CFH telescope.

What next? The software should be completed in June and testing on the telescope will take place in July (Cruise, Estevens, Landstreet and I). Then I can go back to theory or the beach, whichever seems more attractive!

Pele 1 - Hetspec 0

Madame Pele, the Hawaiian volcano goddess, was most unkind to Al Betz and myself during our recent attempt to do infrared heterodyne spectroscopy from Mauna Kea. The four-night run on the NASA Infrared Telescope had to be cut in half because Al contracted pneumonia and was required to spend several days at sea level. We had poor seeing on the remaining two nights but were at least able to show that the spectrometer was performing up to our expectations - in fact a little better! The subsequent five-night run at CFHT was not only completely clouded out, but for the final three nights, the telescope was inaccessible because of a snow storm. We try again on the IRTF in April.

MLr

THE GRAND MISALIGNMENT OF MARCH 1982

Did you ever have one of those days? On Tuesday, March 23 between 11:00 and 11:35 I had several of them. The chain of events began in a special Shop Committee meeting during which I learned that 1) the periodic error in the 74-inch drive is caused by uneven wear on the worm in the drive train, and the worn gear will probably have to be replaced, and 2) the drive of the 24-inch telescope at DDO will have to be dismantled in the near future to repair the problems with the R.A. clamp. Both of these are large, unexpected jobs which involve major committments of shop time, and in the case of the 74-inch drive, money.

My intercom buzzed as this meeting was winding down and I was trying to absorb the impact these jobs would have on shop scheduling. When I picked up the phone, I learned that a plate holder had just been dropped <u>through</u> the Schmidt corrector plate, showering pieces of it onto the new grating in the 74-inch spectrograph. A quick trip to the dome (I will leave it to the reader's imagination how quick the trip was) confirmed that the dropper*, the droppee, the dropped through, and the dropped on were all in poor health.

*The identification of the dropper is being withheld pending the announcement of his posthumous Sirgay Award at the next Christmas Countdown.

Subsequent test exposures by Karl Kamper, Doug Gies, and Jim Thomson showed that it is not possible to attain satisfactory performance of the system without the corrector plate. It is unlikely that we can have another corrector made and installed before June 1. In the meantime, Karl is going to attempt to refigure the old collimator so that it will remove some of the spherical aberration without the corrector plate. This would permit the spectrograph to be used with the old slit system until the corrector can be replaced, and it will also fill a need for a system with high throughput in the deep ultraviolet near the atmospheric cut-off.

Some Newtonian observing will be scheduled while the cassegrain spectrograph is under repair, but much of the time will be used for engineering that was planned for later in the summer. We will make some repairs to the drive, though further work will be required at a later date, and carry out preventive maintenance on the cassegrain secondary mirror assembly, the slew motors, and the declination axle. The reticon will also be installed sometime during this period. With luck, the cassegrain spectrograph will be operating with reduced efficiency by about May 1.

As far as the 24-inch telescope is concerned, we have tentatively scheduled it for a week of engineering time in early May.

Bln

SECRETARIAT NEWS

Pamela Sullivan and Maria Wong are both away now - more news about them in our next issue. Meanwhile Joan Tryggve fills in for Pamela three days a week and Kathleen Jan is at Maria's desk and looks after us the rest of the time. Kathleen will be here until the end of June; she's learned the ropes very quickly and we're very glad to have her with us.

Fe

REQUISITO EN IDIOMA

Ph.D. language requirements have always been favorite agenda items at staff meetings, and this winter's Wednesday forums have provided no exception. But the solitary result has been that henceforth facility in Spanish will be accepted (along with French, Russian or German) as fulfilling the Departmental requirement for a foreign language.

UNIVERSITY OF TORONTO

JUNE INSTITUTE AND CAS-SCA ANNUAL MEETING 1982

The Department of Astronomy and the David Dunlap Observatory of the University of Toronto cordially invite you to take part in a week of stimulating and enjoyable astronomy: the combined JUNE INSTITUTE and CAS-SCA ANNUAL MEETING 1982. We hope that many of you will want to attend both these meetings, and we have planned the program (outlined on the next page) with this possibility in mind.

The JUNE INSTITUTE 1982 will be held in the McLennan Physical Laboratories from MONDAY MAY 31 to WEDNESDAY JUNE 2, with a Welcome Party on the evening of SUNDAY MAY 30. Three of North America's leading astronomers will each present three lectures on topics related to recent developments in astronomy and astrophysics. The lectures will be of interest to senior undergraduate and graduate students, faculty members and other scientists in astronomy and related areas. The speakers and their current fields of interest are:

ROBERTA M. HUMPHRIES, University of Minnesota: Stellar populations in galaxies; the most luminous stars in galaxies.

WILLIAM H. PRESS, Harvard-Smithsonian Center for Astrophysics: Astrophysical fluid problems; cosmology.

PAUL L. SCHECHTER, Kitt Peak National Observatory: Galaxies; clusters of galaxies; cosmology.

The proceedings will be informal, and there will be many opportunities for the speakers and participants to meet together, during the day and at evening social events.

The CAS-SCA ANNUAL MEETING 1982 will begin with a Wine and Cheese Reception on the evening of TUESDAY JUNE 1 and will continue with a series of three review lectures on WEDNESDAY JUNE 2. The joint aspects of the two meetings will conclude with a banquet on the evening of WEDNESDAY JUNE 2.

CAS-SCA members are invited to submit 10-minute papers to the sessions for contributed papers. Instructions for doing so are contained in the attached registration form. The program of the combined meeting is outlined on the following page.

.....

If you wish to attend either or both of the above-mentioned meetings, please fill out the attached registration form, and send it to the following address by MAY 1, 1982.

June Institute/CAS-SCA Meeting
Department of Astronomy
University of Toronto
Toronto, Ontario
M5S 1A7

PROGRAM: JUNE INSTITUTE AND CAS-SCA ANNUAL MEETING 1982

Sun. May 30:	2000	Welcome Party, 96 Wells Street, Host: Dr. and Mrs. Peter Martin.
Mon. May 31:	0830	Registration: McLennan Physical Laboratories
	0915	June Institute Official Opening
	0920, 1115, 1430:	June Institute Lectures.
Tues. June 1:	0830	Registration
	0915, 1115, 1430:	June Institute Lectures
	1000	CAS-SCA Council Meeting (All Day)
	1900	Wine and Cheese Reception, Host: Graduate Astronomy Students' Association
Wed. June 2:	0830	Registration
	0915	CAS-SCA Annual Meeting Official Opening
	0920, 1115, 1400:	June Institute Lectures CAS-SCA Review Lectures
	1600	CAS-SCA Contributed Papers Session I
	1900	June Institute - CAS-SCA Banquet
Thur. June 3:	0830	Registration
	0900	CAS-SCA Contributed Papers Session II
	1100	CAS-SCA Contributed Papers Session III
	1400	CAS-SCA Contributed Papers Session IV
	1600	CFHT Users and CLBA Meetings
	2000	Tour of the David Dunlap Observatory Host: Dr. Donald Fernie and the Staff of DDO.
Fri. June 4:	0900	CAS-SCA Contributed Papers Session V
	1100	CAS-SCA Presidential Address by Dr. Gordon Walker
	1400	CAS-SCA Contributed Papers Session VI
	1600	CAS-SCA Annual Business Meeting
Sat. June 5:	0900	NRC Associate Committee on Astronomy

REGISTRATION FORM: JUNE INSTITUTE AND CAS-SCA ANNUAL MEETING 1982

1. Name .....

   Address .....

   .....

   Student: Yes ... No ... CAS-SCA Member: Yes ... No .....

2. Accompanying guest(s) .....

3. Registration: Please be prepared to pay the following registration fees at the registration desk, in cash or travellers' cheques (Canadian funds). The June Institute is free for University of Toronto participants.

   June Institute: $20 ..... Students $10 .....

   CAS-SCA Annual Meeting: $20 ..... Students $10 .....

   Both: $30 ..... Students $15 .....

4. Accommodation: Please indicate the nights on which you wish accommodation in the university residences. The price is about $21.50 per night, breakfast included. Please be prepared to pay this on arrival, at the residence, in cash or travellers' cheques (Canadian funds). Children cannot be accommodated in the university residences. Those wishing hotel accommodation should make their own arrangements. The Chelsea Inn (595-1975) and the Carlton Inn (977-6655) are reasonably inexpensive and not too far from the university campus.

   May 30 .. May 31 .. June 1 .. June 2 .. June 3 .. June 4 ..

5. To assist with our planning, please indicate whether you expect to attend the following. There is no charge for registered participants and guests, except for the banquet ($20 or less).

   Welcome Party May 30 ..... with ..... guest(s)

   Wine and Cheese Reception June 1 ..... with ..... guest(s)

   Banquet June 2 ..... with ..... guest(s)

   Observatory tour June 3 ..... with ..... guest(s)

6. If you plan to present a contributed paper at the CAS-SCA meeting, please give the author(s), institution(s) and title below. Note that only CAS-SCA members may present contributed papers. Late papers will be accepted only if there is space in the program. Please send an abstract of the paper to the address given on the attached page. The deadline is MAY 1, 1982.

   Title .....

   .....

LETTERS

To: The Editors of The Doings

Gentlemen:

Should there not be some kind of special punishment for editors who do the kind of thing one finds in the DDD (15, No. 2, 1982)? For here, (Page 5, top) the reader finds a paragraph ("A Spell on Las Campanas") wherein an incomparable, euphoric picture is woven (sic) about the passing, diurnal scene during 24 hours on the mountain. We are told, for example, that while contemplating the night sky, it is advisable to lie down, so as not to fall into a bottomless abyss. I mean, man, it was really great! MR's limpid prose had me (a theoretician of sorts, remember) really going there for a moment, and about to reach out to write an observing proposal. But at that very moment my eyes glimpsed the article immediately below the "Spell". There, to my everlasting horror, lay the business about Bob Garrison and Toronto Tarantula I. To spoil MR's reverie with a thing like that requires an eye for cruelty only editors can appreciate. And this was followed by the description of Garrison's barbaric treatment of the hairy, hand-sized spider! Now I ask you, who is going out there to lie down amongst the stars (on the edge of an abyss) with huge, hairy, eight-legged nocturnal creatures lurking about? I suppose the observers at Las Campanas, following Miss Muffet, must learn to "tough it" out. Anyway, Bob Garrison will be relieved to know that my observing proposal has been placed in animated suspension, amongst the cobwebs.

Sincerely,

I

One of your devoted Readers

Who is I? (No, we are not committing a grammatical sin). Long ago, in the days almost beyond recall, some observers with the 74-inch, even "observers of sorts", could choose not two-, not three-letter initials, but single solitary letters, of which I is a shining example. Was I here as long ago as Y (for Young) or H (for Frank Hogg) or L (for Longworth)? Not quite. Was he or she (better to say 'It') really an observer? Yes indeed, and I in fact used the CFHT in 1981! The Doings offers a free copy of the 1981 Observer's Handbook for the first correct written answer to 'Who is I?' - Eds.

GASA Gossip

Have you had enough of Comings and Goings? Do you want to know what is really going on at DA? Well, this new Doings feature will help keep you up to date. From my vantage point in room 1405, I see the whole department (and my life) pass before my eyes. I don't get much work done, (as Louis recently said, "I can't think, they're making too much noise.") but I don't miss much. Of course, where gossip is concerned, a straight line is not always the shortest distance between two points. Bob McLaren learned of Petrusia's recent engagement from Chris McAlary, long distance from Tucson.

For the last month, the department has been the scene of feverish, around the clock calculations as students worked against time, pushing the VAX to its limits so that they would have their draft lists ready for this year's Playoff Hockey Pool. Tom Box demonstrated his superior intellect by obtaining the first pick and choosing Gretzky.

The World Astronomical Hockey Association has just completed another successful season. This year's play was highlighted by the return of such veterans as 'Kamikaze' Rick Crowe and Doug 'Cruise Missile' Gies and by a promising crop of rookies including Ed 'Twinkle Toes' Zukowski, Raymond 'Elbows' Rusk and Al 'Spaceman' Busch. On a sadder note, the Astronomy volleyball team, coming off a successful season (10-6), crashed to defeat at the hands of Zoology in the first round of the playoffs.

Just in case some of you are thinking that the Grad students are more interested in sports than Astronomy, I would like to assure you that the present students are most industrious. In fact, there are several students vying for the coveted 'Hugh Ross: I don't have to go home, I live here. Award'. I'll report more about what the students do here in the middle of the night in the next issue.

Ctn

Geoff Clayton is President of GASA

P O T P O U R R I

Bob McLaren spoke to the Hamilton Centre of the RASC on April 1. His topic was "The Cepheid Distance Scale - A New Application of IR Photometry"

Bob Garrison was in Winnipeg 12-15 March working with Richard Bochonko and his colleagues on U. of Manitoba's new classification spectrograph, which was purchased from Reidel Spotz in Williams Bay, Wisconsin. Bob helped to get it adjusted, gave them some pointers on classification and talked to the group about what can be done with such an instrument.

Peter Martin attended a meeting of the Subcommittee on Theoretical Astronomy (of the ACA) at Queen's on March 22 to update a proposal for establishing the Canadian Institute of Theoretical Astrophysics.

Nancy Evans gave a talk on March 12, to the Toronto Chapter of the R.A.S.C., entitled "The Binary Cepheid SU Cygni: Studies in the Visible and Ultraviolet".

From March 3 to 9 *Nancy Evans* was at Goddard Space Flight Center for the third and final observing session of the program "Ultraviolet Spectroscopy of the Binary Cepheid SU Cygni" on the I.U.E. In this project she and Tom Bolton are measuring the orbital radial velocity amplitude of the blue companion of the cepheid. They now have high dispersion spectra of SU Cygni at maximum and minimum orbital velocity which will be cross-correlated with suitable standard stars to obtain the radial velocity. This provides mass ratio of the two stars.

In addition with a little extra time - since the observing runs have been essentially trouble-free - Nancy looked at several cepheids in low dispersion to search for blue companions. Of the stars observed (SU Cyg, W Sgr, SU Cas, X Cyg and photowrites of Polaris) all but X Cyg appear to have early companions.

John Percy gave a series of lectures at Denison University, Granville, Ohio, March 11-12, under the auspices of the AAS Shapley Visiting Lecturers program. Denison University is a small (2,000) liberal arts college on a beautiful campus; it seems to have very good teaching and research facilities, and a healthy enrolment and endowment. There is a substantial observatory (donated by Swasey) with a well-used, well-maintained 9" refractor. The only "mainstream" astronomer is Dr. Sandra Yorka (who works on carbon star atmospheres), but there are several physicists who work in related areas. Two of them have carried out measurements of the HD lines in the Jovian spectrum and are doing laboratory studies of this molecule, using one of the longest-path-length spectrographs on the continent.

John Percy also gave a public lecture on "Life on Other Worlds: The Astronomical View" at the Buffalo Museum of Science on March 14.

Stefan Mochnacki spoke to the Lion's Club of Toronto on March 4; his topic was "Recent Advances in Canadian Astronomy". This capped off a busy month which included talks to the RASC in Hamilton and Toronto on "The Evolution of Close Binaries" and a colloquium at UWO (Feb. 11) on "Recent Advances in Binary Star Evolution".

Astronomy at UNC - Chapel Hill

by Mercedes Richards

On a recent trip to North Carolina, I paid a visit to the Department of Physics and Astronomy (downstairs from the Statistics Dept.) at the University of North Carolina at Chapel Hill, and met with the three astronomers there: Prof. Morris Davis, Dr. Wayne Christiansen and Dr. Bruce Carney.

UNC - Chapel Hill is the oldest State University in the USA (it opened in 1792) and probably had the first Department of Astronomy in the county. Somehow, the astronomical fervour died after the Observatory burned down in 1838. After that time, Astronomy was pursued as a branch of the Liberal Arts until about 1949 when a distinguished alumnus, John Motley Morehead, donated the Morehead Planetarium, and later the Morehead Observatory, to the University.

Harlow Shapley was reported to have said (after an amendment to his original statement) that "of all the people in America, North Carolinians are the most ignorant of astronomical matters". This was in impetus for Morehead to donate the planetarium.

It was only in 1973 that Astronomy required some of its former status, when it became part of the Department of Physics and Astronomy. At the present time there are five graduate students in Astronomy (3 M.Sc.'s and 2 Ph.D.'s; two of the five are women). The Ph.D. degree is granted as a Physics degree despite the astronomical flavour.

I was told that the undergraduate courses are extremely popular, and that interest in astronomy has increased at the professional level as well with the opening of three new telescopes in the Carolinas (North and South) over the past year. The few astronomers spread out all over the Carolinas have recently (Fall, 1981) made an attempt at closer cooperation, and hope to continue doing so in the future.

So, I hope that in the years to come no one will be able to say that North Carolinians are the most astronomically ignorant people in all America - oops!

PAPERS SUBMITTED

J.D. Fernie	UBVRI Photometry of HR 7308
P.K. Barker D.N. Brown C.T. Bolton J.D. Landstreet	Magnetospheres and Winds of Helium Strong Stars: Dependence on Rotation

*COLLOQUIA**

March 31	*Dr. R.F. Garrison, University of Toronto* *"The Controversy over the Solar Spectral Type"*
April 7	*Rick McGonegal, University of Toronto* *"The Cepheid Period-Luminosity Relation - A New Application of Infrared Photometry"*
April 14	*Tom Box and Al Busch* *G2000 - Current Literature Seminar*
April 19 *Monday+*	*Dr. I. Goldman, Goddard Space Centre, NY.* *"Structure of Neutron Stars"*
April 21	*Dr. R. Schommer, Rutgers University* *"Star Clusters in M33"*
April 28	*Armando-Arellano Ferro and Neb Duric* *G2000 - Current Literature Seminar*
May 5	*Doug Welch and Ed Zukowski* *G2000 - Current Literature Seminar*
May 17-19	*H. Welch, Lecture Series* *- details next issue.*

**Unless otherwise noted, colloquia are held on Wednesdays at 4:00 P.M. in Room MP 137 with TEA at 3:45 in the Reference Room, MP 1404.*

+(A Physics Colloquium) held in the Physics Building Room 901 at 4:00 P.M.

Revisionist's Corner - 210S Style

Some howlers from 210S, as culled and commented on by Dieter Bruckner and Petrusia Bojetchko

From a question about the earliest astronomy;

Definitions: Chaldeans - "neolithic babylonions" (Did they have red bottoms?)

"It (the megalithic inch) suggested social structure and civil surface."

"Tropical year - ..... - 20 minutes shorter than the sidereal year because of the effects of perception" (Wonder wot 'e 'ad!)

"Tropical year consists of 365.2422 days and this measure is derived by waiting from Veneral equinox to Venereal Equinox of the sun." (Paradise Lost retold by Henry Miller?)

C O N G R A T U L A T I O N S

They arrived!

First, COURTNEY SULLIVAN, *at 8 lbs. 7 oz., on Thursday April 15 at the Toronto General Hospital, a sister for Todd Alan*

and, but one day later, VICTOR WONG, *at 7 lbs. 8 oz., on Friday April 16 at Branson Hospital.*

Congratulations to Pamela and Alan Sullivan and to Maria and Stephen Wong.

THE DAVID DUNLAP DOINGS Vol. 15, No. 3 May 3, 1982 ISSN 0713-5904
Published by the David Dunlap Observatory, Box 360, Richmond Hill, Ontario L4C 4Y6
Editors: Donald A. MacRae and Peter G. Martin