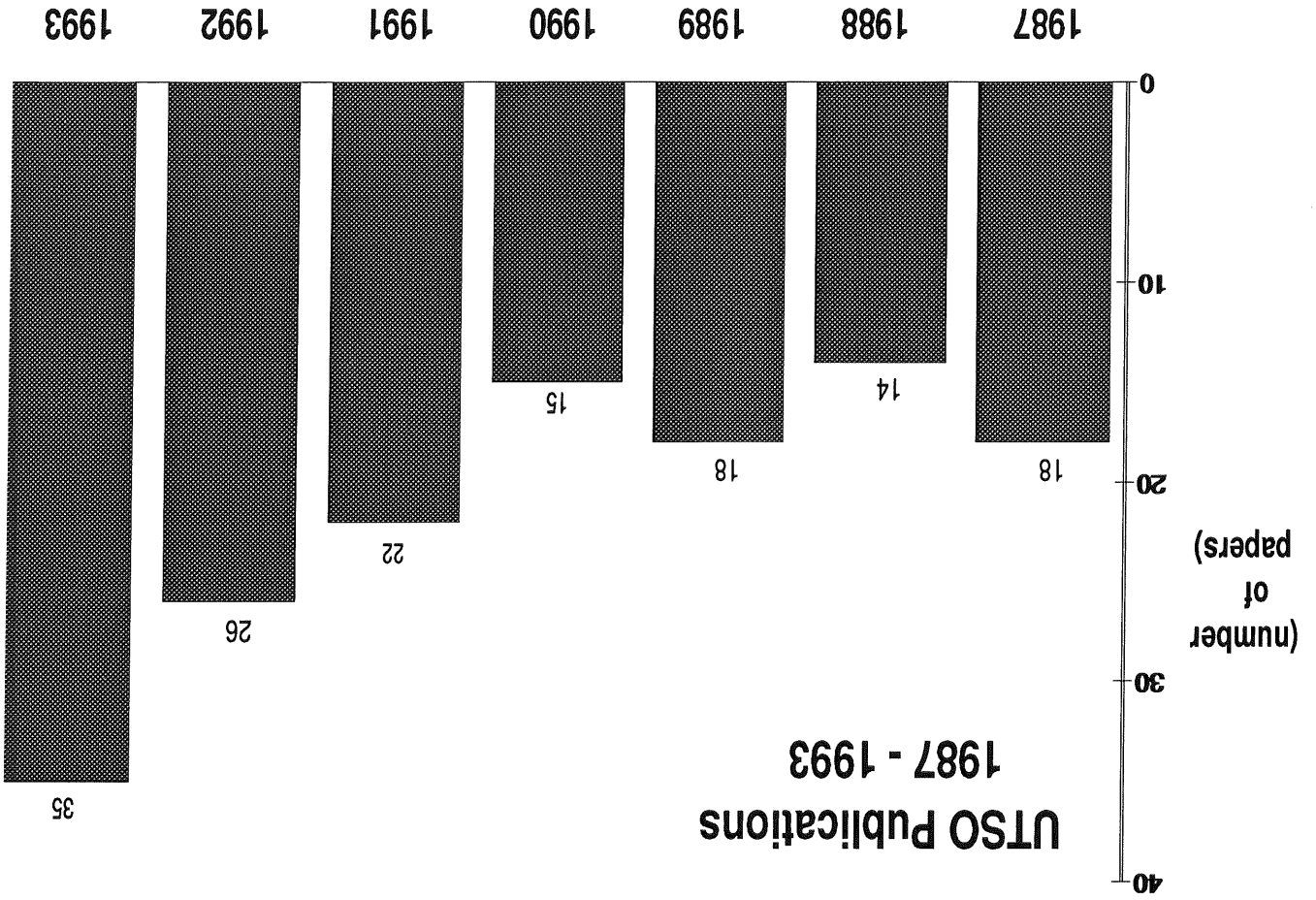


THE LITTLE TELESCOPE THAT CAN

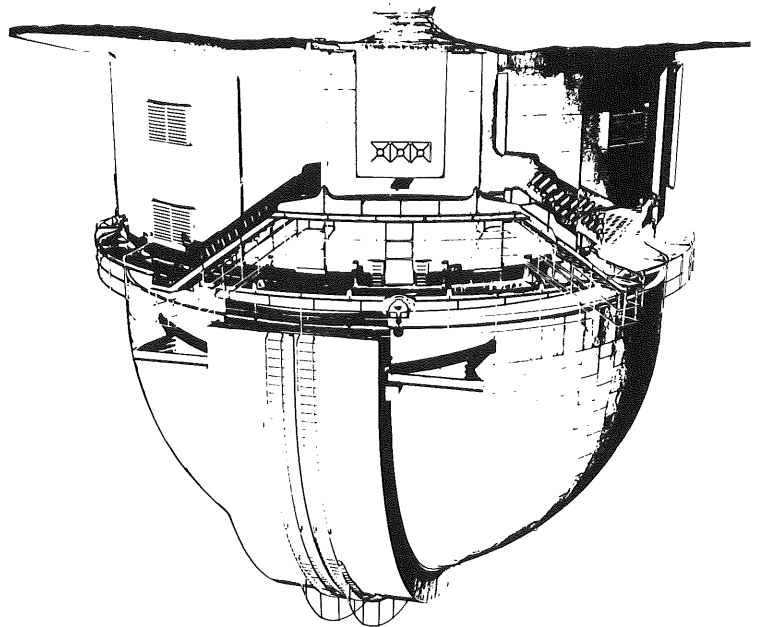


UTSO Publications
1987 - 1993

1993, December 5

Vol. 26, No. 5

THE DOINGS
DAVID DUNLAP



Our user community is wide and varied, from observational cosmologists through stellar spectroscopists to comet experts. As can be seen from Figure 2, the numbers of people using the

No matter how this nebulous, but highly touted, term "productivity" is measured, the Helen Sawyer Hogg telescope (HSHT) ranks as one of the world's most productive telescopes.

In terms of data per dollar, we also rank high. Dividing the annual budget by the number of papers, the cost of our papers is of order \$6K, more than an order of magnitude smaller than large telescopes. Many of our papers involve hundreds or thousands of hours of observations, because the observing assignments are in general for a much longer period, whereas papers from larger telescopes often refer to a few stars and a few hours of observations, so it is difficult to compare. If there were some way of measuring the cost per published photon, which would be independent of telescope size, we would probably rank high in efficiency as well.

Counting papers is only one way of measuring productivity, but it is difficult to imagine any measure that would be comprehensive and useful, taking into account the impact on various diverse fields of astronomy. In terms of discoveries, we rank right up there with the best, partly because of the survey nature of many of our programs.

Our productivity has doubled in the past 6 years, rising steadily from an average of 17 papers per year during the period 1979-86 to 35 papers in 1993 (see figure 1, cover page). One can argue about methodology for counting papers, especially when comparing two telescopes, but these numbers are for the same telescope and the information-gathering techniques were roughly the same throughout. If anything, the 1987-1993 count is underestimated, because we only solicited lists from users and if they didn't respond, we did not search the literature ourselves, whereas in 1979-86, we did fill in some gaps for non-respondents.

Not all faint stars are interesting, and not all interesting stars are faint. That is one of the reasons for our remarkable success in Chile. Many projects require a good, clean CCD, clear skies and good seeing, but do not require a large, expensive telescope. Indeed, such projects should not have to take up valuable time on a large telescope. The niche that we fill is to provide for Canadians reasonably good instrumentation on a small telescope at an outstanding site in the Southern Hemisphere.

REPORT FROM UTSO

Tom Bolton

Our contributors have been unusually generous this month, so I'll forego my editorial in the interests of saving a tree branch or two. Our next issue will appear around February 1. Please forward your news to me as it happens, so I don't have to chase you down close to deadline. Thanks.

FROM THE EDITOR

UTSO Origin of Observers 1991 - 1993

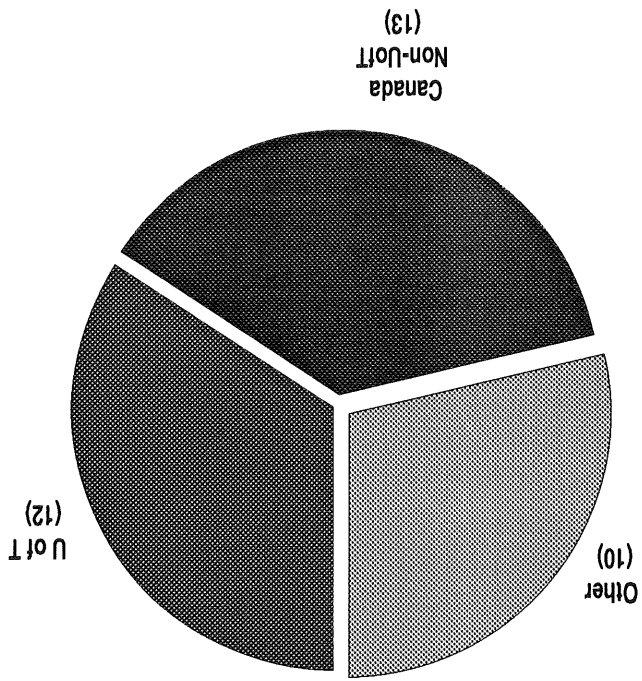
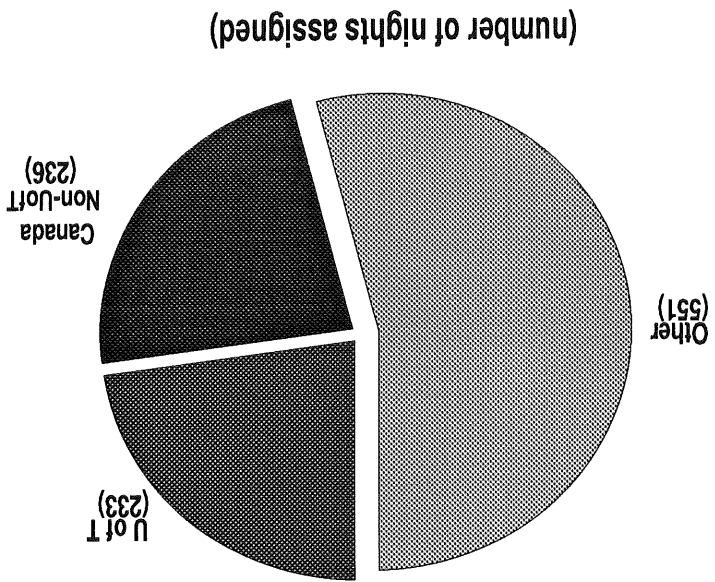
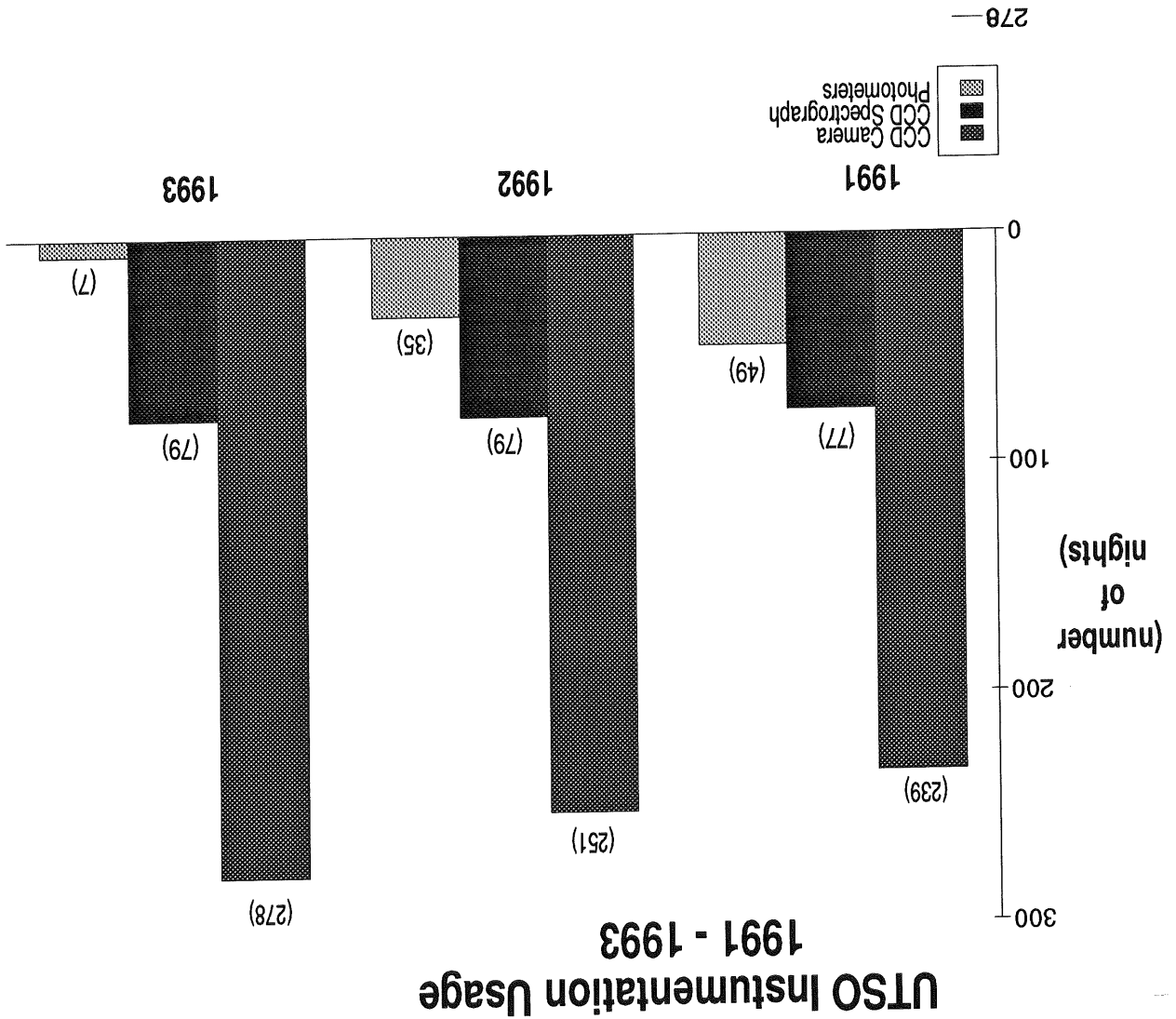


Figure 2.
(origin of users)

telescope are equally divided between University of Toronto users, other Canadians, and those from other countries. In terms of numbers of nights, the balance is thrown off in favor of those from abroad, mostly because of Barry Madore's massive galaxy imaging program. (As Director of NASA's Extragalactic Database Project, he is using service observing at the HST-UTSO for taking CCD images in the R band for the brightest 10,000 galaxies, all of which will be available on-line for those who want to use them. That will have a major impact on the field, but the varied usage will be difficult to track and measure.)

With the direct-imaging CCD, it is possible to reach a limit of 22nd magnitude, though not easy. With the spectrograph, it is possible to reach stars as faint as 12th magnitude with a resolution of 1.7 A/pix and a S/N of about 100. There are millions of stars brighter than 12th magnitude, and lots of intriguing, unsolved problems. A larger telescope would be a great improvement, but in the meantime we can work with what we have, and what we have is a great

Figure 3.



UTSO Service Observing vs. Onsite Observing 1991 - 1993

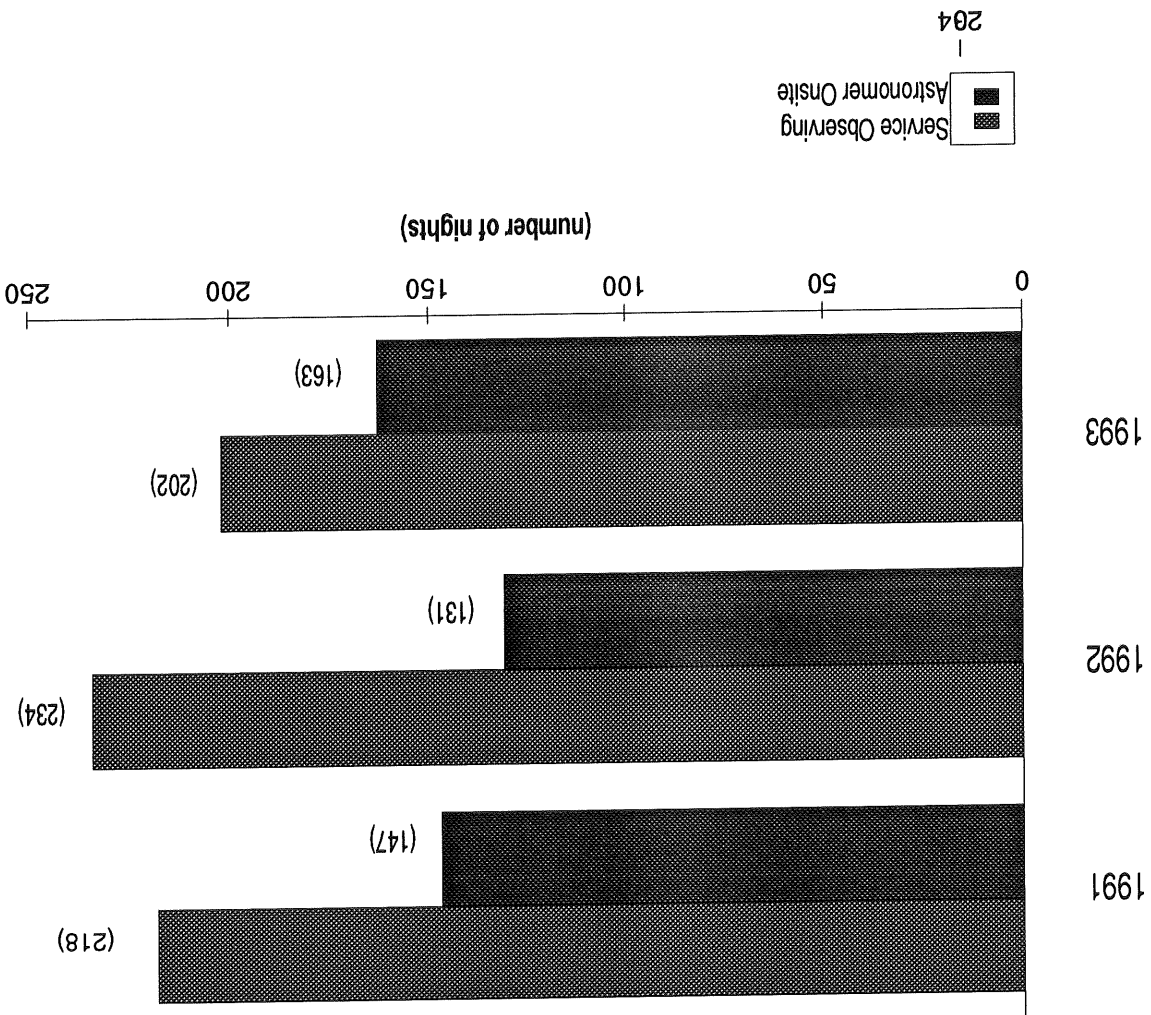


Figure 4.

asset. I figure that if I can't find some interesting scientific project within the brightest few millions of stars, I must not be very interested in astronomy, or else I have lost a sense of wonder. For those who haven't observed with UTSO for a while, the place is hardly recognizable. CCDs are used more than 93% of the time, and photoelectric photometers for the remainder, so we don't even stock photographic emulsions anymore (see Figure 3). In addition to the 6-year-old Heurikon CCD system, we have a new Photometrics system with an IBM 486DX PC operating under OS/2. Within a few months, there will be an image reduction program on site. We are about to ship a new offset guider with an automated guider. At first, it will use the telescope guiding motions, but a tip/tilt secondary guiding system will be ready to go down soon.

During the past 6 years, service observing has increased in popularity, and is especially good for coordinated observations with satellites and large telescopes, or for small projects requiring only a few hours or nights of observing (see Figure 4). We even have had to hire a part-time observer to do some of the service observing while our Resident Observer, Pablo Prado, takes a much-needed rest off the mountain. We have had considerable experience with service observing and find that, while there are still occasional problems, it goes pretty smoothly these days. We recommend that the observers go down for their first run, just to make sure that they know what the telescope can do, and to give the Resident an opportunity to see how they work and what they want out of the data.

For students, one of the advantages of observing at UTSO is that the observer gets more hands-on experience than at a large national facility. The Resident does not serve as a night assistant, so after the first night or two, the observer is left alone to operate the telescope as well as the CCD. If it is the first experience for the observer, the Resident will stay on the mountain, but if the observer has considerable experience with the HSHT, the Resident may take time off the mountain (though still available by telephone in emergency).

Hopes and plans for the future include a larger format CCD, a higher-resolution spectrograph, and of course, a larger telescope. This last seems to be taking awhile, so don't hold your breath; use what we have to advantage while we have it.

CONGRATULATIONS

To Hiroka and Omar Lopez Cruz who were married on October 30 (see GASA Gossip for more details).

To Jason Harlow on the award of the RASC Gold Medal at the 1993 October 1 meeting of the RASC Toronto Centre, in recognition of his excellent achievements in the astronomy and physics specialist program.

To John Percy on the receipt of the American Association of Variable Star Observer's Merit Award for his contributions to the AAVSO and to variable star astronomy. John claims to have been surprised by this award, but those of us that have followed John's work in these areas know that it is richly deserved.

AS THE WORLD TURNS – STAFF CHANGES

Out with the Old:

Mark Fabro resigned from his position as one of the 1.88-m telescope operators effective October 31 to pursue other interests where he will have more contact with people. He had worked at the Observatory since the beginning of 1992.

The University of Toronto was well represented at IAU Symposium No. 162 on Rotation, Pulsation and Mass Loss from Early-Type Stars held at Juan-les-Pins, France on the French Riviera during the first week of October. Tom Bolton, Maurice Clement, John Percy, and Aaron Sigit Doug Gies (Georgia State), and Alex Fullerton (Bartol Research Institute). John and Doug were on the Scientific Organizing Committee and Maurice and Doug were among the invited speakers. Everyone else contributed at least one poster paper. Fine food was enjoyed, many wine bottles were emptied, and we all had a fine productive time in spite of the fact Nature spent most of the week trying to wash the Maritime Alps into the Mediterranean.

COMINGS AND GOINGS

I left Steve and Mercedes in a long conversation plotting future strategy on Algols. Mercedes has just gotten tenure at the University of Virginia. (Her husband Donald is setting up a statistics department there.) She did say that the phrase "What would Mr. (Thomas) Jefferson think?" does come up occasionally.

Steve is now chairman of the Department of Physics and Astronomy at the Indiana University at South Bend. Among his many interests, he is very involved with setting up new courses, including one on the physics of music.

It was a pleasure to run into Steve Shore and Mercedes Richards at the recent IUE/EUVE peer review.

Our correspondent Nancy Evans writes:

ALUMNI NEWS

Dr. Goetz Golla will soon be taking up a Post-Doctoral Fellowship in the Department of Astronomy. Goetz, who will be working with Phil Kronberg, received his Ph.D. this year from the University of Bonn. He had been a graduate student at the Max-Planck-Institut für Radioastronomie at Bonn. This summer he was awarded a Feodor Lynen Overseas Postdoctoral Fellowship which he has decided to bring to the University of Toronto.

New Post-Doc:

Jason Harlow is the new 1.88-m telescope operator. He started work on October 26 in order to have a few nights overlap with Mark. Jason is a graduate of our Physics & Astronomy Specialist Program (cf. Congratulations above). He has worked part-time for Karl Kamper for the past two summers and is an experienced observer with the 1.88-m telescope. He's also had considerable experience wrestling with the intricacies of IRAF.

In with the New:

John Percy attended the 82nd annual meeting of the American Association of Variable Star Observers, in Cambridge MA, October 29-31, and gave a paper on "Project SARV (Small-Amplitude Red Variables)".

John Lester was at the CFHT in the first week of November to observe with Dimitar Sasselov (Ph.D. 1990). Their project was to use the Fourier Transform Spectrophotometer to measure the 10830 Å line of He I in halo dwarfs, from which they hope to make a direct determination of the helium abundance of Population II stars as a function of metallicity.

They had hoped to be able to use the new InGAs photodiode detectors, which had just arrived at the CFHT, to realize a large (perhaps a factor of 10) increase in sensitivity of the instrument in the 1.1 micron region. David Bohlander, a resident astronomer at the CFHT, surrendered half of his last night for engineering tests of the detectors, but the tests revealed a strong noise source in the pre-amplifiers that prevented the detectors from being used at this time.

Using the regular InSb detectors, John and Dimitar were able to observe the brighter stars in their program with success because the observing conditions were excellent: dry, calm, and clear. The 10830 Å line was easily detected in both Population I dwarfs and the brighter Population II stars. All of the stars were selected to have extremely low levels of solar-type activity, based on long-term monitoring of the Ca II H and K lines, so the detections were from the steady chromospheres of the stars.

After the run, John had to return to Toronto as quickly as possible to resume his teaching, but Dimitar, who has just finished his tenure as a Center for Astrophysics Postdoctoral Fellow and is now taking up a Hubble Postdoctoral Fellowship, had the freedom to unwind with a few days of snorkeling along the Kona coast. Dimitar needed to rent a car for this vacation time, so when John returned their "working" rental to the Kona airport, Dimitar went along to get a car for himself. However, he learned that none of the rental companies had uncommitted cars at the airport, and he would have to take a taxi back into Kona to make rental arrangements from there. Dimitar told one of the taxi drivers that he needed to be taken back to Kona, and the man ran off to get his car, which turned out to be a white stretch limousine! When last seen, Dimitar was settling down into a space about the size of our offices, shielded from the bright sun and prying eyes of the public by very dark windows.

TWO RESPECTED VISITORS

James G. Baker was in the city in mid-October to attend the Optical Society of America meeting and took a day off to see the DDO. Jim did his Ph.D at Harvard, contributing to Menzel's "Physical processes in gaseous nebulae" papers and publishing others with Goldberg and Aller. With the coming of WWII he was steered into instrumentation and optical design. He is now best known for the Super-Schmidt meteor camera and the Baker-Nunn satellite camera. But all told he has about 50 designs to his name, the majority under contract with the U.S. government. Currently he is an Associate at Harvard/Smithsonian and an optical systems consultant.

This was Jim's first visit to Toronto — the US government, considering him to be a national resource, has always wanted him to limit his visits out of the country. A number of years ago Jim designed an aerial reconnaissance system for the Canadian Government. This resulted in a massive 14-inch lens which, we are sure, never flew, but which, when declared surplus, was seized upon by the Observatory. We dubbed it 'the U2'. Dave Crampton, after mounting it (for use looking upward), thoroughly and successfully tested it for his M.Sc. project (1964). Jim particularly enjoyed his visit to the dome, where he met Frank Hawker and Archie Riddler, saw the U2 for the first time, and had a royal tour of all the spectrographic equipment with Karl Kamper.

Charles L. Seeger III also paid a brief visit to DDO in October. He has been a frequent visitor, but not in recent years. One early occasion was on the very day that Sputnik was launched. Charles can rightfully be said to be the founder of radio astronomy at Cornell University, and therefore of the Areibo Observatory. Right after the war he acquired a surplus antenna array, built a stable low-noise receiver, and initiated a series of radio observations of galactic noise at 205 MHz at a site near Ithaca under a contract with the Office of Naval Research.

The earliest radio astronomy publications from DDO (Comm. DDO, Nos. 15 & 17, 1948; 23, 1950; 26, 1951) were by Ralph Williamson, who collaborated with Charles, and Ruth Northcott (both Ralph and I were at Cornell with Charles in the very early 40's). Charles soon left to spend a year in Sweden and then several at the Leiden Observatory. After returning to the US he has been active in SETI, now SETI Institute, which is associated with the NASA Ames Research Center in California, and as a Professor at San Francisco State University.

Don MacRae

POTPOURRI

John Percy reports that Jozsef Vinko (Hungary), who spent several weeks in the department a year or two ago, sends a message that he "successfully defended my PhD thesis and got the degree (at least in principle, but the official paper hasn't arrived yet). It was an extremely long procedure which is typical now in Hungary, because the whole scientific system is in upheaval, and nobody knows either what's going on, or what to do". He goes on to thank all those in the department who helped, "because at least 50 per cent of my thesis was done when I was in Toronto — that was an extremely helpful and stimulating environment for me".

Nancy Evans reports that the IUE US1 shift requests were oversubscribed by a factor of about 8 in the latest competition. (No doubt this is why NASA wants the project shut down. They can't stand success. Ed.)

Overheard during a break at IAU Symposium No. 162 and transcribed from memory a few hours later, so quotes are approximate:

Maurice Clement to Alex Fullerton: *What are you doing now?*

AF: *I'm working with Stan Owocki doing some hydrodynamics calculations.*

MC: *You mean you've become a theoretician?*

AF: *No, I'm learning I'm not a theoretician!*

MC: *Yeah, I thought so.*

Extract from advertisement for Gemini Project Director in AAS Job Register of October 1993:

"The Director is responsible for the overall conduct of the Gemini Project and must provide clear scientific and technical leadership. . . While the post clearly demands the full-time attention of the Director, it is expected that the Director will conduct personal research." (On how to live without sleep, I suppose. Ed.)

SHOP TEAM NEWS

Las Campanas autoguider tests at DDO successful

In response to long-standing and well-justified complaints about the clumsiness of the direct imaging setup at Las Campanas, which is one of those temporary arrangements that quickly became permanent, we applied for a small equipment grant, and, once it was received, we have set to work producing a new offset guider with an automated filter wheel and SBIG autoguider. This will free the observer from having to assume the "orang-utang position" for hours on end. Stage two, already underway, will be the replacement of the double-slide fine guider with a tip-tilt secondary for faster and smoother motion.

The first set of offset guider tests were done in August on the DDO 1.88-m telescope at the bent Cass focus. While these tests were sufficient to demonstrate that the general structure was all right and the guide camera and data camera came roughly into focus together, the huge image size on the large telescope made exact testing impossible. Moreover, the difference between the bent and true Cass orientations made it hard to judge the quality of the guider x-y stage clamps and the behaviour of the eight-position filter wheel. Consequently, the second set of tests were conducted on the 0.6-m in October after changes to the x-y clamps to make a more positive lock. The guider was mounted at the Cass focus, with the ST-4 autoguider connected to the hand paddle relays and with a full array of filters in the wheel and the Photometrics 1024² Thomson CCD dewar mounted to emulate the Chile PM512. This required removing the CCD from 1.88-m service and only a week could be spared from the schedule. Some further tests were done using the student's ST-6 CCD as the data camera instead. This was probably adequate but it does not provide the same weight and moment arm, nor does it give as high quality an image, of course.

The eyepiece view was better than expected: twelfth magnitude stars were easily seen and the 10' field made identification easy, since there were usually a half dozen stars visible in the field. Transferring the selected guide star to the autoguider probe was quick and easy.

The filter wheel worked apparently completely reliably. There was no indication of lost steps. Several sets of flats were taken with multiple rotations of the wheel in between to test for repeatability of the dust speck shadows. It proved to be necessary to use a second computer to control the filter wheel, since the board would not work in the 486. The same will probably have to be done in Chile since there are no spare slots in the new 486. This is unfortunate and, hopefully only temporary, since our ideal is to have the filter wheel position passed directly to the FITS header and to have the wheel and the exposures controlled by a batch file.

On the other hand, the autoguider software ran very well under OS/2. Fewer problems were encountered than with previous tests under DESQview or DESQview-X. It was still not possible to leave it in the background, however, or the guiding lock was eventually lost. Moving it to the background for a few tens of seconds is OK, however, provided the telescope drive is reasonably well behaved. This is enough time to start an exposure, for example. Further experiments with the task settings may ameliorate this problem.

Guiding under software control was easy and effective. The only irritation is the long image transfer time which makes guiding speeds greater than 0.2 Hz impossible. Fortunately, with the 486, images transfer speeds were 57 Kbaud. This isn't true with every computer. We obtained a very nice half-hour I filter exposure of Cas A with software guiding. The FWHM is 2"5, which is about as good as the DDO 0.6m can presently deliver. (Ed. Note: And stars fainter than 19th magnitude are visible in spite of the heavy light pollution at DDO.)

For better exploitation of the tip-tilt secondary, it will be preferable to use the firmware guide mode programmed through the black-box panel buttons. In the firmware mode, speeds of 0.7 Hz are possible. This is not particularly painful to set up but it is more trouble than the menu-driven software and permits fewer options. Finally, we will hopefully proceed soon with automating the dome in Chile. With the typical astronomer's rapid adaptation to incremental improvements in creature comfort, I soon found it irritating to have to interrupt my coffee every ten minutes to move the dome!

Karl Kamper & Bob Garrison

The test reported above required a major effort by the entire shop team to switch the CCD and associated electronics from one dome to another and get it running on another computer system. Since this is the first time we've done anything like this and only a short time was available, there were a lot of ways things could have gone wrong. Fortunately, we managed to avoid most of these. Thanks to all for a job well done.

Tom Bolton

GASA GOSSIP

by James P. Brown

Congratulations to Omar who married his long time girlfriend Hiroka. The ceremony took place at City Hall on October 30th. Due to restrictions by City Hall only eight people were supposed to attend the ceremony. The couple managed to sneak in 11, but I wasn't one of them. I did make it to the reception afterwards, where I got the chance to see the video of the ceremony. Well, it wasn't exactly the ceremony it was more like the events leading up to it. City Hall has a policy of not permitting video recordings of actual weddings. Apparently there is some sort of top secret stuff going on in the ceremony room, maybe a general meeting of the U.N. Security Council. Who knows? Whatever the reason, I can only believe that the couple did in fact get married and this is not some elaborate hoax. The happy newlyweds intend to honeymoon some time early next year. (Yes Howard, this does mean that Omar will be going on another trip.)

This observer could not help but notice that shortly after the effects of marital bliss wore off, the groom was seen without his compulsory wedding ring. "It's too tight!" he complained to me. How many times have I been in a bar with my married friends and heard them tell me that line. Usually when they catch sight of another woman they start to make that complaint. All I can say is that if your already getting the seven year itch after only seven days you had best be getting your act together. Remember, once you slap on the old ball and chain, it's for life. It is a bond which can never be broken, at least not without the aid of a good lawyer.

GASA had another outing to Centre Island late last September. A few things were different from our last outing there. One thing I couldn't help notice was the complete and total absence of any other people holding a BBQ in Fall. After sitting around near the water, feeling the cool breeze freeze my exposed flesh, I had a fairly good idea why no one else was there. We did manage to sneak in a bottle of lighter fluid this time. Damn good thing too. That BBQ was probably the only thing that kept us from freezing to death. The popular talk was what would happen if we missed the last ferry and were trapped on the island overnight with only picnic tables to use as firewood. We did manage to have some fun playing football. We had a real sized football this time. You'd be amazed at the difference it made in our play. To cap off the day I managed to injure yet another part of my body. (*Don't be coy? What part was injured?* Ed.) As I said before these Island excursions are just FUN! FUN! FUN!

The entire U of T community celebrated the annual U of T Day in October. Once again GASA was invited to participate in the event by providing interesting and exciting astronomical demonstrations. We hosted a very large crowd this year including some of our regulars, like the mysterious guy in the beige trenchcoat. Some of you will be pleased to know that there were no reports of any major thefts this year. Faculty participation was low, as expected. (*Can we help it if the University schedules the event on a day when many of us are on the French Riviera? I think not.* Ed.) This year we had a new demonstration of how to build your own comet. I liked the demonstration but I have to say that sticking my hand into a bag of crushed dry ice out on the 15th floor balcony with the wind whistling around my ears is not my idea of fun. In fact I can say that any activity out on the balcony is no fun. So I tip my hat and congratulate Paul Wiegert for organizing this year's event.



“What are comets for?”

That’s the sort of question that young students are good at throwing at visiting astronomy lecturers. It’s a fair question but it momentarily causes the slide show presentation to veer off its game plan. What is Jupiter for or what are stars for is one answer. On that occasion this was my answer as I acknowledged the grandness of the question. But answering a question with a question doesn’t usually satisfy Grade 7 students — or most students for that matter. Still, ask an astronomer a question about purpose and invariably we come up short. One answer would be the anthropic, “They are there for us to study.”

Comets, remarkably, have maintained much of the mythology that surrounded them in ancient times. In the solar system, they are unique. It takes a spacecraft flyby, or the discovery of a new ring system or moon for planets to get any press. The mythology of the planets has died with the gods they were named after and they have left our collective imagination.

by Dan Hudon

DAN’S UNIVERSE

The big disappointment this year was the sponsorship of the whole event by 2 for 1 Pizza. They had the gall to take the only reward we got for doing all that work, and ruin it. Of course I’m referring to the big red 2-4-1 logo on the back of this year’s T-Shirt. Ugly, ugly, ugly is the only way to describe it. I’m not against sponsorship to defray some of the costs but this is going too far. I did not work to be a walking billboard for a pizza franchise. Particularly when I don’t consider their product to be any better tasting than the cardboard box it’s served in. Enough said.

A few of our grad students have left the department to pursue other interests. Jean-Louis Trudel has joined the Institute of History and Philosophy of Science and Technology here at the U of T. Charles Kerton has left to study in Hawaii in some sort of Geology and Planetary Science type department. Joachim Stadel is going to Seattle to continue his work on parallel computing. We bid them adieu and Good Luck.

My serious discussion for this week is about refrigerators. In particular the small fridge located in the 14th floor lounge. I don’t use it myself but I have on occasion been sitting next to it when someone has opened it to get something. All I can say is that it is the most putrid of smells the comes forth from it. I can’t understand how anyone could eat anything that comes out of it. I have a solution to the problem however. May I suggest that some responsible user clean the fridge and go out and buy a box of baking soda. I know my mother keeps one in her fridge and swears it works wonders. I have not personally tried it, but others have told me it works. So, put an end to fridges that smell like someone’s bodily remains are being stored there, and buy a box of baking soda (that’s soda not powder).

Comets, however, are still events. They are their own headlines. Each generation has its own celebrated comet, some more celebrated than others. Halley's last apparition sparked discussion even amongst those who don't worry about the Universe. And for those who knew what to expect, it did not disappoint. It hung in the sky, not far from the Pleiades, like a Christmas tree ornament - not the star atop the tree but one of the fuzzy white balls that hang off to the side. You had to look for it. A young relative of mine said that although he was sorry to have missed Halley on the last go-round, he was sure that he would see it the next time, seventy-six years hence.

My mom said, with a wink in her eye, "Yeah, so will I."

"You will???" I said, with one eyebrow raised — a trick that I learned from her.

"Yes," she said, pleased with herself, "I'll be *widning* it!"

Comets do that to people. Feeling gravity's pull, they plummet in towards the sun and set the imaginations of any earthlings that they meet along the way ablaze. That's what I like about them. It's the feature that when a picture comes up in the middle of the Tour of the Universe slide show — a bright, fuzzy coma dragging a long, swordlike tail — someone pipes up and says, "Wow - what are *those* for???"

Comets, 'the dirty snowballs' are for disrupting current world views. They are for proving Kepler's laws. They are for providing dazzling meteor showers throughout the year. They are for understanding the constituents and conditions that were prevalent in the early Solar System. They are probes for studying the interplanetary medium and the solar wind.

Comets, 'the long-haired stars', are for getting woven into famous tapestries. They are for playwrights to harness as in Shakespeare's *Julius Caesar*:

When beggars die, no comets are seen:

The Heavens themselves blaze forth the death of princes
(Act II, Scene II).

They are for poets to humanize as in Sir Charles Roberts' *The Unsleeping*:

I hush the comets one by one
To sleep for ages in the sun.

Comets are portents for the passing of kings and emperors (King Harold in 1066, Emperor Maximus in 218). Mysteriously appearing in the night sky with such calamitous events in tow gave them a reputation as heralds of disaster (from the Latin, *dis-astrea*, or 'against the stars'). But comets, like Halley, are also for marking the arrival and departures of authors as for Mark Twain in 1835 and 1910.

And, of course, comets are for riding.

THE BEST(?) OF THE TEA MESSAGE

i was sitting in my office last night looking out into the dull dark gloomy rainy yucky night and i started to write the tea message which became very rainy and yucky and it wasn't funny but i liked it anyway because i was sure it was going to be ugly and gray and cloudy today and so were the weather-people and even though the message wasn't quite going to be the cat's pajamas at least the tea would taste good so that we could all be miserable together and there's some comfort in that so i left it as it was and went home all pleased with myself because i had actually accomplished something for the day and then i got up this morning and to my astonishment and i'm almost embarrassed to say my chagrin as well i saw the sun which wasn't supposed to be seen in these parts until march and so it was the first time in my whole entire life that i've been upset to see the sun because it meant that i had to write a whole new message that wasn't so rainy and gray and cloudy and i was going to write it in all-captials to show how mad i was but i didn't

tea and cookies at 3:30pm in room 1422 bring your sunglasses

REVISIONIST'S CORNER

Last month I asked my AST422F students to do a calculation that required the geographic coordinates of the Mt. Palomar Observatory. I was shocked when they told me a week later that the coordinates were not given in the 1993 edition of *The Astronomical Almanac*. A quick visit to the library was sufficient to determine that it had been listed in 1992 and earlier editions, but it had been omitted from the 1993 and 1994 editions. I am aware that there is considerable pressure to shut down smaller telescopes in the era of 8-m telescopes, but this seemed a bit extreme. After I called this omission to the attention of our librarian, Marlene Cummins, she contacted the Palomar Mountain librarian, who responded as follows (message slightly edited).

From lib@ECCLIES.CALTECH.EDU Tue Oct 12 18:41:10 1993

Subject: RE: your observatory

To: astlibr@vela.astro.utoronto.ca

gosh, maybe that jerk on the San Diego City Council finally got his way and remodelled the place into a restaurant, as he suggested (see Science newsmote a few months ago)

then, again, the smog corroded it into dust.

from personal observation (not astrophysical theory!) Palomar was doing just fine as of October 1th, my latest library maintenance visit. looked good to me.
but...what do I know.

It is now operated jointly by both CalTech and Cornell, so perhaps they trade off which institution gets 'ownership' billing??? I really must go look at the latest issue and see for myself what is going on. It would really be a tacky way to find out my job has been evaporated! (do you need a typist?)

cheers
hzk

"The absence of hydrogen lines in an object's visible light spectrum doesn't necessarily imply that it is devoid of the element — witness type O or M stars, whose atmospheres are too hot or too cool, respectively, for the formation of optical hydrogen lines."

A Professional Astronomer
Sky and Telescope
December 1993, p. 31

THE INTERNATIONAL ASTRONOMICAL UNION

What is the IAU? Is it still relevant to astronomers, especially young astronomers in the First World? If not, are there structural changes which could make it more relevant and more useful? Or do young astronomers fail to appreciate the international aspects of astronomy? The IAU is currently discussing and debating these questions. They are ones which all of you should think about.

The IAU is a non-governmental scientific union founded in 1922 to "promote and safeguard astronomy, and to develop it through international cooperation". The IAU also acts as a liaison by representing astronomy on about 20 other unions and commissions. There are currently 65 countries adhering to the IAU — up from 51 three years ago, primarily due to political events in Europe. Membership is by nomination, and is free to individuals, so there are no economic barriers; it is based on qualifications: usually a PhD and a few years of experience. There are currently 7301 members; the number doubles about every 12 years. IAU headquarters is based in Paris, and is administratively "lean". Most of the IAU's funds (which come from formula funding from the adhering countries, as with the UN), support meetings, including General Assemblies, Regional Meetings, Symposia, and Colloquia, held in geographically-diverse locations, and the participation of young and needy astronomers. The IAU is governed by an Executive Committee, composed of a President, six Vice-Presidents, a General Secretary, and an Assistant General Secretary. The membership is organized into 40 commissions, or interest groups.

You can find more information about the IAU in recent issues of its semi-annual Newsletter. These contain such interesting information as the per cent of women astronomers in different countries (Canada is well below average) and in different fields of astronomy.

The IAU is wondering whether its perceived irrelevance is due to the way in which the commission structure has grown, in a way which reflects the astronomy of the past, rather than astronomy of the present and future. The large number of commissions may act to fragment astronomy, rather than to encourage a broad, interdisciplinary approach. The IAU has proposed to replace the 40 commissions by a much smaller number of "super-commissions" on topics such as "stars", "galaxies", "cosmology", "instrumentation" etc.

On the other hand, many of the commissions are very active in organizing meetings, publishing newsletters, and carrying out other projects which enhance research and education in their field. One project is the Triennial Reports, which summarize the most important research in each field in the previous three years.

It would be difficult to summarize all the arguments for each side — suffice it to say that the astronomical community seems to be divided on this issue. If you are a member of the IAU, please think about it, and make your views known. If you are not, you should think about it anyway. You can send your views directly to IAU HQ in Paris, or through me; I would be pleased to communicate them on your behalf.

John R. Percy

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