



NAAPO (North American AstroPhysical Observatory)

"Signals"
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THIS -N- THAT

(ed.note): Recently we received a letter from Mr.Herb Johnson, currently residing in Colorado. I am including it in its entirety here as I feel that it is of interest to us all.

The Observatory is often on my mind, and I always appreciate the receipt of the Newsletter. You might want to occasionally run a summary report on the status of aspects of the observatory and its funding as a "recap", especially for those of us off site and far away. (Or maybe a 1-page add-in). The "running reports" follow a thread that I occasionally lose from my remote location. Congrats to Hanson on his card to tape project. As a participant in the last general effort to correlate cards and paper data I appreciate his efforts. I also continue to have an interest in "mining" the old data, particularly from the printouts of the IBM-1130 era. I'll enclose helpful information (as per his article series) regarding CRC generation. I resell computer equipment of the PDP vintage (70's & 80's), although not generally including DEC equipment. I would be glad to donate slightly used 8" diskettes to meet your needs: how many, and single or double sided? I encourage your use of IBM-PC class equipment as it is more "available" than Q-bus stuff, notwithstanding programming and other issues. Bob apparently suggested a PC-compatible WWV receiver for focus room use. There is also a modem/dialup service available, supported by NBS and WWV, where you can call for timing information under automatic program control. I would bet that an old PC and a modem would cost less. The software is available as shareware on many BD systems; check with the local IBM computer club. I am currently examining Viking Orbiter images of Mars as a private project. If I have initial success in interpreting these images with appropriate software, I may contact you folks for a joint project in distributing these images in a more convenient and useful fashion than currently available from the government. More on this when I make more progress.

Incidentally, how does the observatory plan to accumulate data at the site in some massive fashion as it comes off the receiver? As I remember the PDP-11/23, it had floppies and a removable 10 meg pack. Do you have devices of any greater capacity on site? -- Herb Johnson --

P.S. To the editor, on compressing your format. I suggest four, not five columns in "landscape" (horizontal) format as a minimum layout.

MEETING NOTES

Following are the meeting notes of 16 March '91:

The meeting began at roughly 10am. Those in attendance were Barnhart, Phillips, Dixon, Schumacher with Boy Scout Troop 146 from Union United Methodist Church from Grove City, Hanson, Murdock, Brown and Campanella.

Barnhart reports that he has volunteered to haul down and back a truckload of stuff to the Dayton Hamfest if we can set up a booth there. He also announced that he and Schumacher, et al, were successful in obtaining the screen room from Battelle. It now resides in the RO office building.

Dixon reports that the light pollution hearing will be on the 20th of this month at 7:30pm. Many have expressed intentions of attending. A good discussion of light pollution then ensued between members of the scout troop and members of the RO group. Dixon announced that there will be a tour of the RO for the Delaware Amateur Radio Association. The Flag of Earth has been stolen. We will place an order to replace it; in the meantime we will put the old one back on the pole. Dixon then reported that he will be at a conference in Washington all next week.

The meeting broke at roughly 11:30am, with most going off to their respective tasks.

Following are the meeting notes of 4 April '91:

The meeting began at roughly 10:12am. Those in attendance were Barnhart, Phillips, Childers, Leeseberg, Schumacher, Hanson, V.Horne, and Brown.

Barnhart reports that we will not be setting up a booth at the Hamfest as our application was turned down. It seems that they were already filled up by the time they received our application. We discussed applying now for next year's. He then reported that there will be a seminar at OSU, given by Dan Stinebring, on detecting gravitational radiation using millisecond pulsars. Many expressed interest in attending. He then reported that the proposed lighting regulations for Liberty

Township were voted in by council members. It is believed that these are the first such light pollution codes in central Ohio. (ed. note: I will be including a story on this subject).

Leeseberg reported that he will recontact the people with the 18 meter radio telescope. It is hoped that there can be some sort of collaboration between the two installations regarding detection and verification. A possible scenario would be us contacting them to verify a signal that we've received.

Hanson reports that the card project has been put on hold, as Dave Langford has not been allowed to continue on the work-study program. He will look into possible replacements. Hanson is also looking into an attractive job offer that would relocate him to Canton. He will keep us informed.

The meeting broke at roughly 11:40am, with most going off to their respective tasks.

Following are the meeting notes of 20 April '91:

The meeting began at roughly 10am. Those in attendance were Barnhart, Phillips, Klein, V.Horne, Murdock, Brown, Childers, Mitchell, Dixon, Janis and Huck.

Barnhart reported that the price of the complete sets of "Cosmic Search" magazines will increase from \$35 to \$100. The increase is necessary because complete sets are now extremely rare. Incomplete sets and individual copies will experience a less dramatic price rise. He then reported that he and Phillips delivered a PDP-11/23 to the RO office building last night.

Dixon reported that the Delaware Gazette had a story stating that Japanese investors have expressed an interest in purchasing the grounds to create a housing development and larger golf course. He will keep us informed on this subject as news becomes available.

Childers reports that he has built a control box for the signal squirter. He now needs Turbo-C manuals to study so that he can create software.

Brown reports that he has been working on the power supply to the focus room computers. He has also moved the flat reflector about 1 degree north. The move took about 2.5 hours.

Murdock reports that he has experienced more difficulties in connecting to magnus from Jones Middle School. Brown et al has volunteered to make a trip there to straighten the whole thing out.

Janis reports that Phillips has removed the two Decwriter II's from the hall of the 8th floor of Dreese. He also hooked up a Decwriter III to the Dreese PDP, replacing the Decwriter II. Additionally, he has transported a Decwriter III to the focus room and replaced the Decwriter II there. This gives 9600 baud print ability.

The meeting broke at roughly 11:40am, with most going off to their respective tasks.

Poem by Tara Moore

(ed.note: Following is a poem written by Tara Moore. Though Tara has no connection with the RO, she has recently been confronted with the thought of extra-terrestrial intelligence. I asked her to put her reflections on paper, which she has attempted to do. This is the second of her poems.....)

THOUGHTS OF AN ALIEN By Tara Moore:

Standing amidst my world;
I wonder if I should move;
To see what is on the planet Earth;
And then my existence I could prove;

This fascination that they have;
I just don't seem to understand;
To see if I really exist;
And whether I'll visit their land;

I know some will expect strange things from me;
Like being green and having three heads to just name two;
Some might even expect me in a flying saucer;

And if I don't have one they might not know what to do;

I know they'll want to take pictures;
Because they're sure to think I'm so rare;
But they'll expect the pictures to not come out;
Just so it'll give them a good scare;

I can see that the pressure is on me;
To make a good impression for my race;
And so I take my first step towards Earth;
Hoping they'll welcome me into their place.

FOR SALE:

We have the following for sale:

VT-100 terminals with keyboards; \$50 each. If interested in purchasing any, contact Steve Janis or Tom Hanson. Steve can be reached electronically on Magnus as "sjanis"; Tom is "thanson" on Magnus. You may also call the RO number 614-292-6709, or write us @ 2015 Neil Ave., Columbus, OH 43015.

TRYING TO STEM THE TIDE OF LIGHT POLLUTION:

By Earl W. Phillips, Jr

The issue of light pollution is one that affects many people in many different ways. It obviously affects those of us whose vocations, or avocations, happen to be astronomy; but it also affects those whose main interests are not the sky. I'm talking about all the future generations of children who, with an increasingly light polluted sky, will not look up and wonder: "What's out there"? For it's from that wondering kid that all astronomers, professional and amateur alike, spring from.

Here in Central Ohio where I live, we recently actually had a chance to do something about it. I live in Columbus, Ohio, and nearby is Perkins Observatory. This beautiful structure once housed a 69-inch reflector, but due to the high percentage of cloudy nights here, plus the encroaching light pollution from Columbus the 69-inch was disassembled and moved to Flagstaff, Arizona in 1961. It was replaced with a 32-inch F/17 reflector, which seems dwarfed by a dome originally built to house a much more massive scope.

The land upon which Perkins Observatory sits is situated in Liberty Township. One of the Township's Zoning Committee members, Dr. Robert Dixon, who is himself an avid amateur optical astronomer, as well as a professional radio astronomer, introduced lighting regulations into the zoning code. These proposed regulations call for:

- A) Use of fully shielded cut-off fixtures;
- B) Directing light fixtures downward rather than upward;
- C) Shielding the light in such a way that the light emitting portion of the fixture cannot be seen at a reasonable distance.

The specific requirements of the proposed regulations were:

- A) Where used for security purposes or to illuminate walkways, roadways, equipment yards and parking lots, only fully shielded cut-off style outdoor light fixtures shall be utilized.
- B) Where used for signs or for decorative effects or recreational facilities, such as for building, landscape or ballfield illumination, the outdoor light fixtures shall be equipped with automatic timing devices and shielded and focused to minimize light pollution.
- C) All outdoor light fixtures installed and maintained upon private property within all zoning districts shall be turned off between 11:00 PM and sunrise EXCEPT when used for security purposes or to illuminate walkways, roadways, equipment yards and parking lots.
- D) All illuminated signs for commercial purposes shall be turned off between 11:00 PM and sunrise, EXCEPT that signs may be illuminated while the business facility is open to the public. All forms of flashing, rotating, moving or digital lights shall be prohibited.
- E) All outdoor light pole fixtures shall not exceed a maximum height of thirty (30) feet.
- F) In addition to these provisions, all outdoor light fixtures shall be installed in conformity with all other applicable provisions of the resolution.

Exemptions are made for light fixtures producing light directly by the combustion of fossil fuels, as well as low-voltage lighting and holiday lighting.

The proposed lighting regulations seemed sensible, and something everyone in the

as-yet sparsely populated Liberty Township could live with. It was hoped that, if adopted, these lighting regulations would slow the harm that the ever increasing development would bring.

There were some that were against the code, however. Their main argument seemed to be that of over-regulation and enforcement.

The final meeting that would decide the fate of the proposed lighting regulations was held on Wednesday, March 20, 1991 at 7:30 PM. Myself, Dr. Wing of Perkins Observatory, Dr. Mitchell, an Astronomy Professor at Ohio State University, and Dr. Barnhart, of Big Ear, the Ohio State University Radio Telescope (where Dr. Dixon is the Assistant Director), attended to speak in favor of the proposed regulations if necessary. As it turned out, it was necessary. There were two parties that requested the complete removal of the proposed regulations, again citing over-regulation and enforcibility as the primary reasons. I spoke up in favor of the codes, citing examples such as Tulsa, Oklahoma and their success with lighting codes. Dr. Wing then spoke up in favor, stating that sometime, we all need reminders such as these proposed regulations to be courteous. Then, Dr. Barnhart spoke up in favor, from the standpoint of conservation of energy and thus money.

In the end, the proposed regulations were indeed adopted. I believe that this is the very first instance of such code here in Central Ohio. But this is a small victory. It is obvious that those of us here in Central Ohio, and everywhere, must pick up this issue and carry it further, in ever-widening circles to the Municipalities, Townships, and Counties all around us. Only by such action can we have hope of securing reasonably dark sky for the next generation of kids, to look up and wonder: "What's that"?

ELECTRONICALLY SPEAKING

(ed.note: following are various gleanings from the radabs electronic mail).

The Astronomers is a new TV miniseries every Monday night on ch 34. The first episode was last Monday, and it runs for another 5. It is very good, and I recommend watching it. Of particular interest to us is they showed an astronomer using the Palomar Prints, and sure enough he was using our overlay maps to help him find what he wanted. -- Bob --

From: James L. Bolinger
Subject: RFI source

A recent article in the Westerville News (front page even!!!) talked about Genoa Township (SE Delaware County) protesting against rampant reproduction of cellular radio towers in their backyards. They say they are ugly and want legislation to regulate their height and location.

Maybe we should get in on this act before Big Ear is blinded (deafened?) by the things. There were several bigshots mentioned who the citizens are trying to get involved. State Rep. Joan Lawrence, State Senator Ted Gray, US Rep. John Kasich, Gov. George Voinovich, and the PUCO (**Public Utilities Commission of Ohio**). Joan Lawrence is trying to introduce legislation. We should also contact the cellular companies themselves to see what sort of agreement could be worked out. -- JLB--

From: Earl W. Phillips Subject: Cellular phones & RFI

There was also an article in the newspaper I work at (ThisWeek) regarding an effort to halt the construction of cellular phone towers. Quite a while ago, while attempting to identify the RFI sources that affect our telescope I spoke with several representatives of the cellular telephone industry regarding their frequencies. On the one hand, they are still classified as a public utility, and as such do not have to get permission from the public to put up the tower, tho' they are regulated by the PUCO. On the other hand, they don't necessarily want to be "bad neighbors" to any scientific installations, and would welcome meetings with representatives of any such installations that they may affect. They are in business, and to make money, so any suggestions that could be construed as cutting into their pockets will be met by a wall. I still feel tho' that it would be beneficial to meet with them to discuss the possible effects of their signal on our scope.

From: Bob-Dixon@osu.edu
Subject: My Absence

I will be at a computer conference in Cincinnati Thursday and Friday of this week. -- Bob --

From: David W Langford
Subject: A new random filter...

Now for those of you who are not into random number generators and the like here is a nice filter someone made: Enjoy

```
; ) Loop n <-input # get next n r <- rand() # also get a random number n=r? random number? Yes: trash <- n # then toss it no: output <- n # otherwise keep it end loop.
```

In other words, the randomness of each n is determined by comparing it to a number known to be random; all random n's are filtered out. It's just like that technique of finding prime numbers by eliminating all the composites. For example, this could be handy for scientific researchers: now they can weed out any random fluctuations in their statistical data. Astronomers can get sharper pictures.

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