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ROAMING THE REGION

The Naperville Astronomical Association will participate in the Christmasfest IV Bake Sale in downtown Naperville, Illinois. The event not only provides exposure for the club, it also gives them a chance to earn some money from the sale of members' baking goodies.

Two satrs were eclipsed this year in Peoria. George Triff, Jr., passed away in July, and Art Grebner suffered a massive heart attack in November. Both men were long time active members of the Peoria society. They will be missed.

The Milwaukee Astronomical Society joined with a group of localradio "hams" to present a unique open house at the MAS observatory in November. The radio amateurs demonstrated their radio equipment and the astronomers provided some spectacular views of the heavens with their telescopes. Everyone agreed that the two hobbies were complementary and could offer much to each other. They plan to repeat the visit at some time in the future.

ASTROFEST 1983: Amateur Astronomers Meet at Shaw-Wan-Nas-See

(by Berton Stevens, Jr., Chicago A.S.)

ASTROFEST became a major event among midwestern amateur astronomers this year with one of the finest displays of amateur telescopes seen in this area. 164 people attended the event, bringing more than 30 different telescopes of almost as many different types. The event was held at the Shaw-wan-nas-see 4-H camp near Kankakee, illinois.

The weather cooperated beautifully with the astronomers who were able to observe through the telescopes both Friday and Saturday nights. While a few clouds moved through the area on Saturday, October 1, the attendees were treated to various talks and workshops on astronomy and telescope making. John Hanses brought his portable planetarium, the "Cosmic Circus", and provided a daytime view of the nighttime sky to many.

Observers who arrived on Friday night were treated to views of the Veil and Lagoon nebulae as well as many other deep sky splendors. The few who tired of viewing cloud choose a science fiction movie. Observing continued into the wee hours of Saturday morning when a crescent moon rose making deep sky observing difficult but not impossible in the unpolluted skies of the 4H camp.

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Eastern Iowa Star Party

(by John Waack, from Quad Cities A.S. Meridian)

Eden Valley, what a weekend! The first annual Eastern Iowa Star Party, sponsored by QCAS, was thoroughly enjoyable. Much of the credit belongs to Bob Bryant for his wonderful job of preparing the park and getting things ready.

We arrived Friday afternoon and received a warm welcome at the visitor's center. It was not long before amateurs from many different clubs began to arrive. Close inspection of the variety of equipment being hauled up the hill to the observing site only increased our excitement. We knew we were in for something really great and as darkness fell we found out what it was.

Bob had assured us of dark skies, but none of us were quite prepared for what we saw. It gave the 20" a chance to really show off. Objects like the Veil Nebula were fantastic. The Cedar Valley members brought a 14.5" Coulter which also did a splendid job. Ken Boquist's 6", f/5 with a nebula filter provided nice views of the North American Nebula.

The Perseid meteor shower provided an added bonus with many bright fireballs. After observing the moon and planets earlier in the evening and then the meteors mixed with great deep sky observing, we thought it had been a full evening. Then someone glanced north and noticed an aurora forming. The aurora became very bright and active, keeping most of us up until dawn.

Saturday was spent hiking, playing volley-ball and discussing astronomy. As the Sun set Saturday night, the clouds moved in. By 2:30am the rain had started. There was a mad scramble up the hill to cover sonotubes with tarps before major damage was done.

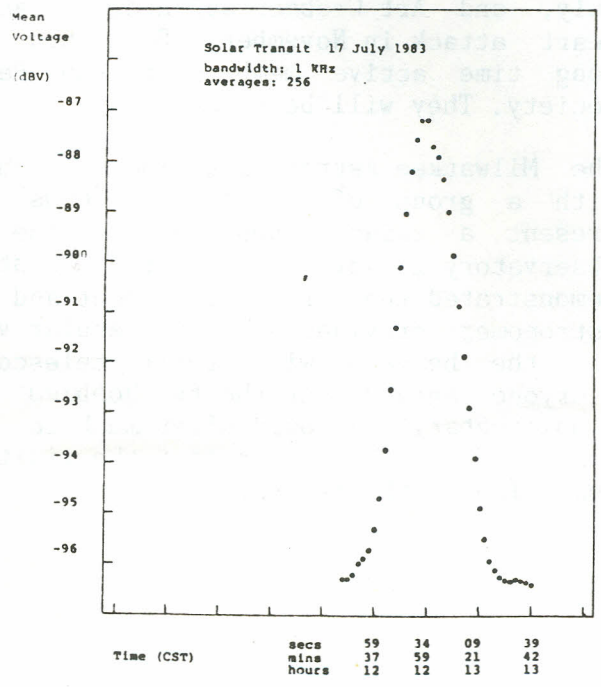
Sunday morning proved interesting as vehicles moved up and down the narrow dirt road to retrieve telescopes. We were all glad we had come and were looking forward to next year eagerly.

Small SETI Observatory: Progress Report

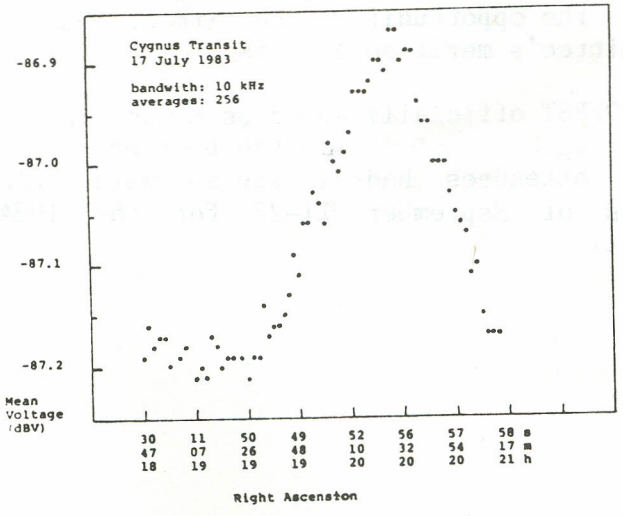
(by Robert H. Gray, from Chicago A.S. Observer)

The small SETI radio telescope has started a regular and almost completely automated search for evidence of extraterrestrial intelligence. About three hours of observations are recorded each day in a meridian transit mode of operation. A multi-channel spectrum analyzer is used to examine 256 channels of about 40 Hz bandwidth for radio signals near the 1420.405 MHz hydrogen frequency (corrected for Doppler shift).

The narrow band signals which are expected from an extraterrestrial radio broadcast are searched for by inspecting graphs of multi-channel data, looking for channels with significantly greater power than the average (background) power of the rest. A true celestial signal would be recognizable since its power would vary as the antenna's beam swept across it, and a slight drift in frequency due to Doppler effects would be noticable.



A transit of the Sun observed at a wavelength of 21cm.



A transit of the radio source in Cygnus, observed at a wavelength of 21cm. The known flux density is about 1255 Jy at 21cm.

Wideband signals or emissions can be detected by the system (as in conventional radio astronomy) by aggregating all 256 channels into an average power measurement. Illustration 1 shows a graph of the Sun transiting the antenna and illustration 2 shows a transit of a source in Cygnus. No other astronomical sources have been observed - most are weak at this frequency. System improvements sufficient to detect several more sources are planned to facilitate both electrical and directional testing of the radio telescope.

Planned improvements in the small SETI system include 24 hour operation, possibly at a remote site (requiring a new, dedicated computer system), increased sensitivity to circularly polarized signals and the addition of a wide-band Dicke-switched receiver for conventional radio astronomy work. Pending applications for funds may permit implementation of sophisticated signal detection methods as outlined by Steven Lord in the Project Oasis report.

An informal team of individuals has contributed expertise and, occasionally, hardware to recent phases of the project. Gil Kowles of Anixter-Mark Corp. made available a helical CP feed. Chuck Pocius and Frank McCoy tested IF amps for a wide-band, Dicke-switched system. John Hattick of Watkins-Johnson Co.,assisted in the selection and acquisition of very wide-band IF amplifiers. Robert Sickels provided design and construction aid for the Dicke switch, integrator and power supply. Skip Crilly of Hewlett Packard in Spokane provided support for the programmable 21cm receiver he built for the project. Paul Horowitz of Harvard University provided helpful data, suggestions and hard to find part numbers.

Forever Peering and Probing

(reprinted from the Milwaukee Journal, 7/29/83; submitted by Frank Roldan)

Many experiments in modern science are possible only with complex, costly equipment and teams of highly trained professionals. We recently wrote about one such experiment, conducted by physicists at the Fermi National Accelerator Laboratory in Batavia, Illinois.

But a piece in the New York Times the other day reminded us that you don't have to be a Ph.D. working with a multi-million-dollar atom smasher to make important contributions to modern science.

While the physicists at Fermilab and elsewhere poke into the mysteries of the infinitesimal, amateur astronomers peer into the realm of the infinite. And they see a lot. Last May, for instance, amateur astronomers working together gathered data likely to provide the most detailed picture of any asteroid.

In fact, a significant percentage of discoveries in astronomy are made by amateurs who go out into their backyards after dinner and peer into the starry skies with their own telescopes. Maybe this should tell us something about the size of space, or about the enduring value of ordinary human curiosity, or about the persistance of awe.

Anyhow, we're glad those star-gazers are going to be out tonight, gazing, keeping watch.

ASTROFEST (cont.)

Saturday dawned bright and sunny. Coffee and doughnuts were provided for the few early risers who had not stayed up late observing. Still, many blurry eyes greeted ASTROFEST Chairman Jon Nehls when he gave the official welcome in mid-morning.

After the welcome, the morning paper session included "Perforating Clear Glass Secondary Holders", by Jack Brisbin; "Design and Construction of Small Refractors", by Robert Karas; "Drawing at the Telescope", by Dan Troiani; "Stellafane 1983", by Jesse Carol and "Astronomical Art", by Joan Hanke-Woods.

An excellent catered lunch divided the morning session from the afternoon's Astro Swap flea market. Many visitors took the opportunity to buy-sell-trade their items. Others took the opportunity to look at the telescopes in the daylight that they had looked through during the previous night.

Two papers were presented in the afternoon: "Those Shiefspiegler Optics Aren't So Tough", by Richard Wessling and "The Wanderers", a timelapse movie of planetary motion by Carl Buzzard and Paul Lorenz. Robert Cox conducted a workshop on telescope optics. Complementing that workshop, Richard Berry gave another on telescope mountings.

Saturday's catered evening meal was followed by Rollin VanZandt speaking on "Large Optical Telescope of the Future." He detailed plans of professional astronomers for the next generation of large Earth-based telescopes up to 500 inch aperture. The telescope awards committee concluded the evening's formal activities by presenting certificates to the best and most original telescope designs.

Clear skies once again allowed the telescope to be put to good use. Observing continued far into the morning hours and included the Orion Nebula, the Pleiades and many other winter deep sky objects. Many took the opportunity to confirm the award committee's merit selections.

ASTROFEST officially ended on Sunday noon. Most agreed that it was the best ever and many attendees had already set aside the dates of September 21-23 for the 1984 event.

February 28th is Deadline for March Issue