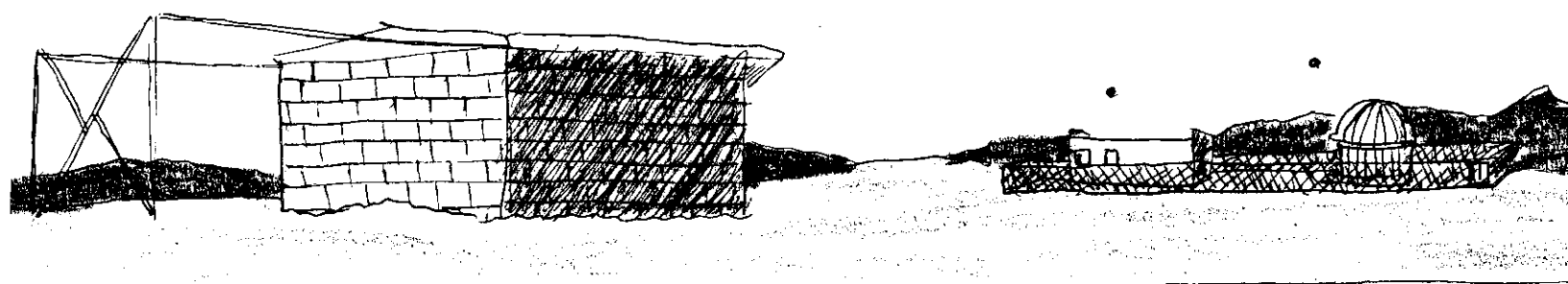


July-August 1987

Vol. 13 No. 4

the

# ECLIPTIC



Newsletter of the LACKAWANNA ASTRONOMICAL SOCIETY, Scranton, Pennsylvania

## LAS OFFICERS AND BOARD MEMBERS FOR 1987

President - John D. Sabia                      Vice President - Jo-Ann Kamichitis  
 Secretary - Glenn Jacobs                    Treasurer - Diane Musewicz  
 Junior Vice President - Tom Holeva  
 At-Large Members - Esther Friedmann/Steve Gedrich/Ed Sidorski

## LAS CALENDAR

<u>DATE</u>	<u>ACTIVITY</u>	<u>PLACE</u>	<u>TIME</u>
Mon & Wed (Wed is a repeat of Monday)	KJCO July Lecture Series, (famous LAS members all!) Observing will follow the lectures	KJCO/LASO, Fleetville	8:00 PM
Jul 6 & 8	Tom Cupillari, Speaker		
Jul 13&15	Bill Speare, Speaker		
Jul 20&22	Jo-Ann Kamichitis, Speaker		
Jul 27&29	Jo-Ann Kamichitis, Speaker		
Jul 7 Tuesday	Regular Monthly Meeting	KJCO/LASO, Fleetville	7:30 PM
Jul 11 Saturday	Official Club Observing Night	KJCO/LASO, Fleetville	9:00 PM if clear
Jul 14 Tuesday	Board of Directors Meeting	Home of J.D. Sabia	8:00 PM
Jul 24-26 Fri-Sun	Stellafane ATM Convention (No keyholders will be in town to open observatory)	Springfield, VT	
Aug 4 Tuesday	Regular Monthly Meeting	KJCO/LASO, Fleetville	7:30 PM
Aug 5 Wednesday	Star Party (Contact J. Kamichitis for details and directions)	East Stroudsburg University Camp at Marshalls Creek	
Aug 8 Saturday	Official Club Observing Night	KJCO/LASO, Fleetville	9:00 PM if clear

Aug 11 Tuesday	Board of Directors Meeting	Home of J.D. Sabia	8:00 PM
Sept 1 Tuesday	Regular Monthly Meeting	KJCO/LASO, Fleetville	7:30 PM
Sept 5	Official Club Observing Night	KJCO/LASO, Fleetville	9:00 PM if clear

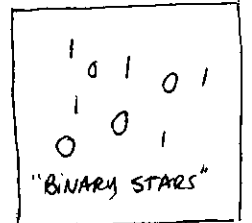
The dates of the Perseid meteor watch will be announced. We'll be hindered by moonlight this year, but it's still worth watching. Contact John Sabia for details.

On all clear official club nights, a keyholder to KJC/LASO will be present (either John Sabia or Jo-Ann Kamichitis.) Even on club nights, if you must travel any great distance to get to KJCO, please call J. Kamichitis to be certain of the sky conditions and availability of a keyholder. Also, if the weather is at all iffy, call first to make the arrangements definite. On other clear weekend nights, contact J. Kamichitis (343-4006) to see if the place will be unlocked or whether you will have to bring your own 'scopes, and warm up in your car. KJC Observatory's phone number is 945-3665, but people are not always near to the phone to hear it. KJC/LASO is at the intersection of Route 107 and Hack Road. Take either Exit 61 or 62 of I-81. and head towards Fleetville.

---

PRESIDENT'S NOTES

12½" SCOPE AND DRIVE - THE SAGA CONTINUES ...



In April, the components of the Mathis Drive were ready to install on the Polar axis of the Club's Starliner mount. On the afternoon of May 1st, Joe Kamichitis, Ed Sidorski and I attached the main drive's worm gear with the motor to the scope. It wasn't until later in the month that we discovered that the scope was not operating properly. The polar shaft was turning, but the stars still drifted from the field of view.

After some discussion it was decided to remove the polar shaft and examine the bearings. We also decided to drill and tap the polar shaft so it would be in direct contact with the scope's housing, to insure that it was not slipping in the housing. The upper bearing was removed, cleaned and regreased.

After all of this we reassembled the mount, attached the scope (now minus the 4" refractor) with its repositioned 8 x 50 finder, and found to our dismay that the scope drove well when positioned on the "west" side of the mount and not tracking at all when on the "east" side of the mount. Also when it did track a star, there was a very noticeable periodic "rocking" of the image in right ascension.

As bad as all of this sounds, it does get better. After a time it was found that the right ascension circle on the polar mount was jamming the scope's smooth movement. Once the offending circle was removed, the scope did drive well on the "east" side of the mount. The periodic error is caused by a momentary "halt" in the motor. This "halting" can be seen visually and corresponds to the "rocking" of the image. We are now awaiting a replacement motor.

The 12½" is operational for visual, but not photographic, use. Joe and I are also working on removing some of the vibration caused by the tube.

NEW SCOPE FOR THE LAS

The LAS has ordered the 17.1" Coulter Dobsonian scope. The waiting time was quoted at nine months. Diane Musewicz (treasurer) has issued a check for 1/3 of the total cost. So we're on our way to aperture fever. In addition, Glenn Jacobs, our secretary, has offered to absorb the cost of the shipping for the scope, and Elaine Moore has offered to pay for a finder. A very grateful thank you is extended to both Mr. Jacobs and Miss Moore. In addition, all proceeds from the coffee fund go directly towards the balance on the scope.

SAVE THOSE IGA REGISTER TAPES!!

Diane Musewicz wishes all members who shop at any of the IGA Stores to accumulate and bring their register tapes to the meetings or mail them to her at 431 Palm Street, Scranton, PA 18505. The IGA will give 1% of the total of these tapes to the LAS as a registered non-profit organization. This fund-raising opportunity is ours until the end of October.

CLEAN-UP DAY

This was set for May 2, 1987, while it was not established in time to have been published in the last issue of the "Ecliptic", it was discussed at two of our regular meetings. The day was coolish, but not freezing. The work crew of Joe and Jo-Ann Kamichitis, Ed and Charlotte Sidorski, and my son John, have my warmest thanks for their efforts.

Ed and Joe cut the weeds and grass around the observatory using their own grass mowers and weed eaters. Joe also cut a path from the back gate of KJCO to our building. Charlotte scrubbed down the walls and swept up all the accumulated dust and debris. We also tried sprinkling moth flakes around to deterr the local rodents. (This seems to have worked moderately well.)

Jo-Ann worked on the classroom building, while John ran errands and kept track of everyone.

Thanks again to everyone who gave their time.

John D. Sabia  
President



---

PUBLIC SESSIONS THIS SPRING AND SUMMER

Part I - Astronomy Day -- You missed it already!

The Saturday we chose, May 23, was hit by bad weather, so the stalwarts that did show up (LAS officers and board, a few lonely "public", and some desparate WSHS students of mine who had to get a project finished) were mainly treated to spectacular clouds, winds and lightning, a brief power failure, a slide show and the showing of the film "Universe". We were somewhat taken by surprise to find the public library had given us the old black and white Canadiak film board movie featuring David Dunlop Observatory rather than the newer color film narrated by William Shatner. Actually except for the solar system coverage, the film still stands up very well. It's also fun to see astronomers in white shirts and ties. How things have changed! I remember watching recently a show on cosmology on TV and one of the astrophysicists was wearing a "Lake Woebegon Whippets" hat.

I visited David Dunlop Observatory during the RASC's general assembly in Toronto in 1977. Sad to think that there are plans for a major high rise residential development just  $\frac{1}{2}$  mile down the road from the observatory.

Part II - KJCO Summer Lecture Series Set

As usual, all the speakers are famous LAS members. Starting time is about 8:00 PM.

July 6 & 8 - Tom Cupillari, KJCO director, will speak on "Novas and Supernovas"

July 13 & 15 - Bill Speare, science curator at the Everhart Museum and well known eclipse chaser will present "Halley's Comet Update"

July 20 & 21 - Jo-Ann Kamichitis, LAS officer and Editor, and a KJCO night assistant, will speak on "Moon Phases and Earth Tides"

July 27 & 29 - Jo-Ann Kamichitis (again?!) will speak on "Meteors: Stones From Outer Space"

Join us up there. Bring your scope and help out with the observing sessions after the lectures. (If you hate lectures, show up at about 9 or 9:30PM just to observe; we won't squeal on you. Saturn is up now and is gorgeous in the 9"! The series is open to the public free of charge.

Part III I never did get the publicity out for the Broome County Astronomical Society's "Family Weekend" in May. To make up for that this is the schedule for their summer public sessions.

Roberson Kopernik Observatory, Underwood Road, Vestal Center, NY 748-3685  
\$2.50 adults/\$1.50 children

- July 10, 17, 24, 31  
(Friday 8:00 PM) PUBLIC NIGHT: Film, "Jupiter Odessey" and telescope viewing. Bring the family and see the universe firsthand. (Viewing of Saturn if clear)
- August 7  
(Friday 8:00 PM) PUBLIC NIGHT: "Stars & Shooting Stars". Lively indoor program on what is in the sky for August. See Saturn & the Moon if clear.
- September 2  
(Wednesday 7:00 PM) B. C. Astro Society meeting at 7:00 and public observing at 8:30 PM (if clear).
- September 18  
(Friday 7:30 PM) KOPERNIK KIDS' NIGHT - Special astronomy program youngsters to find out about the moon, stars, planets.
- September 29  
7:00-8:30 PM "BEGINNING STARGAZING" - 4 weeks. Course will be elementary astronomy geared for ages 12-90.

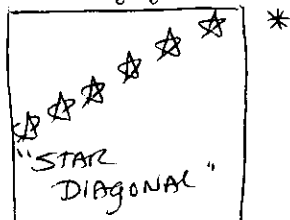
#### Part IV - LAS STAR PARTY IN EAST STROUDSBURG

After attending an LAS star party and slide show at Promised Land State Park a few summers back, Mr. John Cressman has been trying to book the LAS road show for his church camp. This year we finally made the schedules click.

We're scheduled to be at the East Stroudsburg University Camp at Marshalls Creek, on Wednesday, August 5. We'll be dealing mainly with youngsters -- maybe 50 youngsters or so. Strong participation from the club will go far to show the kids how fascinating the skies can be.

Anyone interested in helping out, please contact me at the address or phone number listed elsewhere in the newsletter.

Enjoy the summer with the LAS!



Jo-Ann Kamichitis

---

#### BOOK REVIEW

Astrophotography II by Patrick Martinez, Willman-Bell, Inc., 1987, \$18.95

This book had to grow on me a bit. When I first got it, I skimmed through it and then put it down for a couple of months. If I were a beginner and began to leaf through the pages, I think I would be put off by the proliferation of optical diagrams, formulas (some with logarithms), filter response charts, and headings like "Synthesizing ... Parameters", "Equation of Luminosity", and "Equivalent Quantum Efficiency". A quick glance at this heady stuff could turn an aspiring astrophotographer into a life-long visual observer! But then, anyone learning what could be an involved procedure tends to weed out what's important at the moment and takes a course of less resistance.

Martinez runs the gamut from star trails and piggyback photography through lunar, planetary, solar, and deep-sky photography. Photographing eclipses, meteors, satellites of planets, and even spectra (!) is covered. I found no mention, however, of aurora photography.

His discussion of film is especially good. Not enough astrophotographers (and photographers in general) have an in-depth knowledge about film. The author talks at length about its structure, its differing reaction to light and developers, its power to record fine detail. 2415 is given the coverage it deserves with many pages and tables on its use. XP1 is also mentioned quite prominently and may have been used widely in Europe when this book was written but it seems to have died a quiet death here in the U.S. Hyper-sensitization is also covered in detail.

The 75 or so black and white pictures look as good as most original prints I've seen -- the book is all heavy, glossy stock. The 13 color pictures (printed together) are good except for a couple which are overly blue or red. In my edition, the captions on page 97 for Clavius and Copernicus are reversed. The captions (or pictures) on page 70 are also (I'm 95% sure) reversed.

The author's discourse on the "drift method" of polar alignment is confusing. I would look elsewhere for better instructions. But then, where else can you get seven (7) pages on focusing?! The author covers it all -- ground glass, aerial image, paralax, knife-edge. The last chapter is almost a mini-course by itself. It contains important discussions on secondary obstructions, coma and focal ratio, and Newtonian and Schmidt-Cassegrain telescopes.

I'd say, get Covington's book first, then Astrophotography II. Robert Little's book I would read at the library during my lunch hour. I'm still waiting for Provin and Wallis'.

Joe Kamichitis

---

SUPERNOVA NEUTRINOS DETECTED!

Got a note and newspaper reprint from Larry Theilgard, famous LAS member and a vice president at International Salt Company, pointing out that his company has allowed the University of Michigan and the University of California at Irvine to use their Plainsville Township Michigan Salt Mine for free, to build a \$5 million particle detector (annual operating costs of \$500,000 a year are paid for by the U.S. Dept. of Energy). On February 23, 1987, this particle detector recorded eight neutrinos for 6 seconds from the bright supernova eruption in the Large Magellanic Cloud. This observation was confirmed by a matching observation from a large particle detector in Japan. An earlier report of a neutrino burst recorded by Italian and Soviet scientists in a particle detector a mile beneath Mount Blanc is now being discounted since that apparent neutrino burst was 4½ hours earlier and has not been confirmed by any other detector.

Although the particle detector has been working for the past 7 years and this was the first neutrino burst recorded. In fact it was almost not recorded since the burst occurred at a time when the detectors tape would have normally run out. Luckily the detectors technicians had been able to stick around much later than usual since the mine's workers had extra maintenance work to do. This meant the new tape was put on later and was still running at the time of the outburst.

Particle detectors have to be far underground to escape interference from cosmic radiation.

Jo-Ann Kamichitis

---

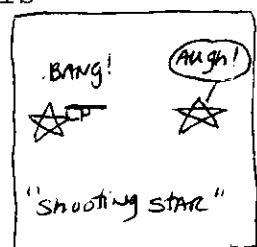
MERALCON-87

(Notice from Jan Romer of DVAA and BCAAS)

1987 Convention of the Mid-East Region Astronomical League

Because this is an open convention, amateur astronomers from non-member clubs are welcomed.

Date: July 17-18  
LOCATION: Ambler Campus of Temple University, Philadelphia, PA  
SCHEDULE: Friday, July 17th - registration 5:00 pm until 10:00 PM  
Entertainment and refreshments provided. Observing (weather permitting.)  
Saturday, July 18th - continental breakfast free to all attendees  
Morning Workshops, Afternoon Paper Sessions, Evening Pizza Banquet with Dr. Don Cooke Guest Star: New Light on the Universe.  
Incredible door prizes at banquet. Observing (weather permitting)

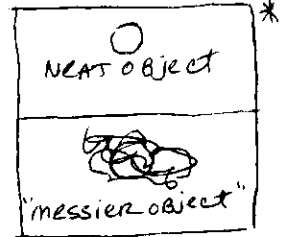


FEEES: Registration: \$10.00 per person or \$15.00 per couple/family  
 BANQUET: \$5.00 per person or \$2.50 under 12 years old  
 Rooms: \$11.00 per person/night (double occupancy)  
 \$15.00 per person/night (single occupancy)  
 \$ 3.00 extra/night for linen service (optional)

DETAILS: The Ambler Campus Temple University is located approximately 20 miles from downtown Philadelphia in a beautiful suburban setting. The campus includes horticultural gardens, tennis courts, and a C-14 in a domed observatory.

The Saturday morning workshops will be hands-on, question and answer sessions on practical areas of amateur astronomy. The afternoon paper sessions are more formal presentations on subjects of astronomical interest.

For more information about MERALCON-87 please contact:  
 Bill Shuman, Chairman, MERAL  
 7045 McCallum Street  
 Philadelphia, PA 19119  
 (215) 247-7879 home, (215) 471-2538 work



Registration forms will be available at the LAS July meeting or from Jo-Ann Kamichitis.

CLOSE ENCOUNTERS....

While at the observatory taking in the many wonders of the night sky, you often have the chance to observe the local domestic and wild life. KJCO has shared its land with cattle herds, horses, along with woodchucks, rabbits, deer, and once a red fox. Above the ground the skies are filled with hawks, swallows, bats, various black birds, kildeer, meadowlarks and the calls of the Great Horned Owl.

Until recently my closest approach to the wildlife happened once while I was at the 12½" trying to get M13 which was nearly at zenith. There I was balanced precariously atop the 6' ladder when, not more than two feet above my head, a hawk let out a bone-rattling "screeeck!". I had thought I was accustomed to the various sounds of the night, but believe me I was quite taken aback by this. As I both ducked my head and looked up, I could see the outline of the big bird soaring away from me. I supposed he was miffed that I was taking so long to get M13!

As unnerving as that experience was, this year I had an even more startling encounter, just after a local scout pack had pulled out following their "fun-filled" evening under the stars.

I had gone in for a cup of the coffee that Joe usually has brewed by that time of night. My dark adaptation was wiped out by the classroom's fluorescent lights, which had been left on by the scouts running in and out to the restrooms. After finishing my coffee, I thought I'd go and check out what Joe had been observing earlier in his binoculars, near the NW corner of the fenced in compound.

I opened the door and proceeded to walk over to that shadowy figure to my left. After about four steps, it occurred to me that the shadowy figure was somewhat bulkier than I expected. But thinking back, I recalled that the 8" Heade Schmidt-Cassegrain was not in the classroom.

"Ah-ha, Joe must have set up the scope out here!" I said to myself, as I started to say aloud, "So Joe, what are you looking..." My sentence was cut off since by this time, say another step-and-a-half, my pupils had begun to open up and I could pick out a huge unknown shape. As this shape and its accompanying loud deep clump-clump-clump sounds approached me, my instincts told me two things -- 1. This is not Joe!, and 2. Back up fast! I zipped back to the door, opened it and watched as the shape moved gradually into the light pouring out from the classroom.

The thing had a massive head with two large soft black eyes. "It" turned out to be the large black stallion that often roams the field by the observatory. He apparently was just as startled as I was, for he headed

immediately towards the gate and back to the pasture. He must have entered the compound to feed off the nicely trimmed grass.

I headed back in for another cup of coffee, relieved that I hadn't encountered "Big Foot". I don't think I could put up with all the publicity and interviews that would be demanded of me by those tabloid "newspapers" you only see while checking out of the supermarket.

John D. Sabia

---

#### OBSERVATORY ASIDES

Last issue there was an error in the newsletter about the roots of the name Orion. It does not come from the word "to rise". Just our luck that part of the article is quoted in another club's newsletter. Very sorry about that, folks. I apologize and hope the error goes no further. (By the way, I want to thank Tom Holeva for printing up our member mailing labels.)

The saga of the 12½" seems endless especially if you figure how long we've been working on the 12½", its mount, its drive, its tube and its building. The Lehigh Valley Amateur Astronomical Society has plans to construct a 40" telescope and its surrounding dome on Pulpit Rock. They figure on 5 years to get things completed. I envy them their ability to get things done. They already have several buildings on their site including a dome for the 20". In addition, LVAAS has its own home-built planetarium projector. LVAAS has a core of hard-working, competent members any club would envy.

If you want consolation though, read the June 1987 issue of Smithsonian where they discuss plans for the new generation of huge optical telescopes. The article mentions the 6 meter Bolshoi Astronomical Telescope (BAT) that is currently the world's largest optical scope. Reportedly the mirror has been replaced twice, while other large scopes have been hampered by bad seeing conditions created by the way the dome building itself is constructed.

On a smaller scale, at least we didn't have metal fatigue in one of the mounts axes cause our telescope to smash onto the ground, as happened at the Roberson-Ropernick Observatory in nearby Vestal, New York. They're still engaged in fund raising to replace the "totaled" scope with a C-14.

John's discussion of wild life reminds me of the similarities between my two favorite hobbies -- star watching and bird watching:

Binoculars work almost the best of all instruments for both hobbies.

You don't find your house cluttered up with specimens (as you do in rock hounding), just some instruments, notebooks and slides.

Nobody owns the best view of blue jays or of M42, everyone has a chance to see them even from their own home.

You can combine both interests with traveling. However, in both cases you do have to get away from the shops and hotels for the best view.

You become sensitive to your natural surroundings and the threats to them.

You're never too old or young to start either hobby.

The pleasures of finding and observing both stars and birds are more than doubled when you do it yourself rather than merely waiting for others to show things to you.

The LAS has star atlases, books, astrocards, and now the bimonthly magazine "The Observers Guide" for you to use to become familiar with astronomy and the night sky. (By the way that "Observer's Guide" is a good thing to suscribe to for yourself. It has charts, descriptions, photos and drawings of objects as well as articles on such things as "How to draw deep sky objects". A great tool to use to sharpen your observing skills.)

Come on up to Fleetville. We'll give you a map, show you how to use a scope and binoculars, and you'll be on your way to a richly rewarding experience -- the universe.

Jo-Ann Kamichitis

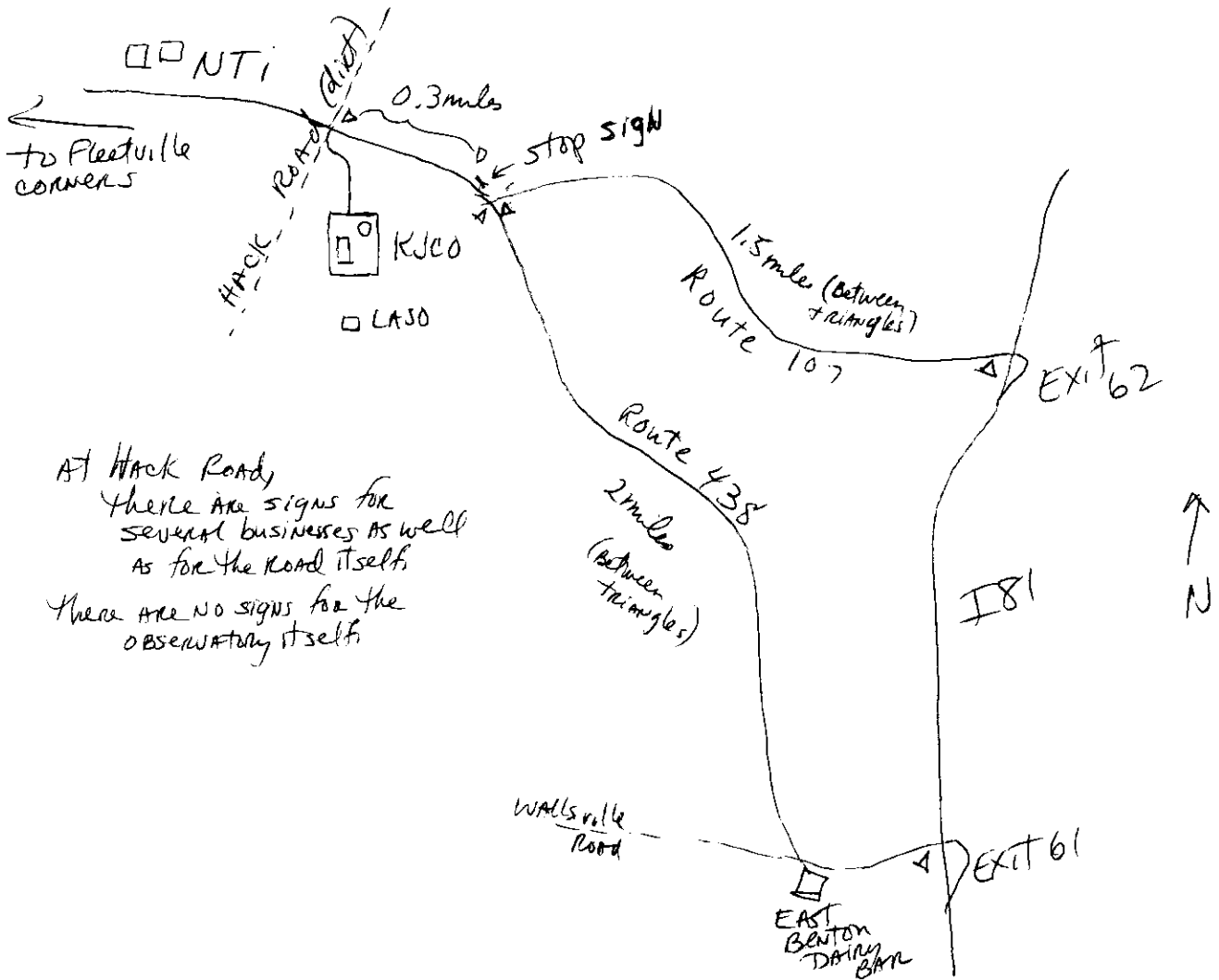
The "Ecliptic" is the bimonthly newsletter of the Lackawanna Astronomical Society. A subscription to the "Ecliptic" is one of the benefits of membership in the LAS. No permission is needed for nonprofit use of any material published in the "Ecliptic" provided it is properly credited.

Articles, cartoons, news items, may be sent to :

Jo-Ann Kamichitis, Editor  
1047 Mohawk Street  
Scranton, PA 18508

Staff: Diane Musewicz  
Joe Kamichitis  
Tom Holeva  
Julie Musewicz  
Sarah Musewicz  
Matthew Musewicz  
Vince Musewicz

MAP to where it's all happening (KJC/LASO)



At Hack Road,  
There are signs for  
several businesses as well  
as for the road itself.  
There are no signs for the  
observatory itself.

\* Block jokes via "Astro notes" RASC OTTAWA centre newsletter