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**WASP**



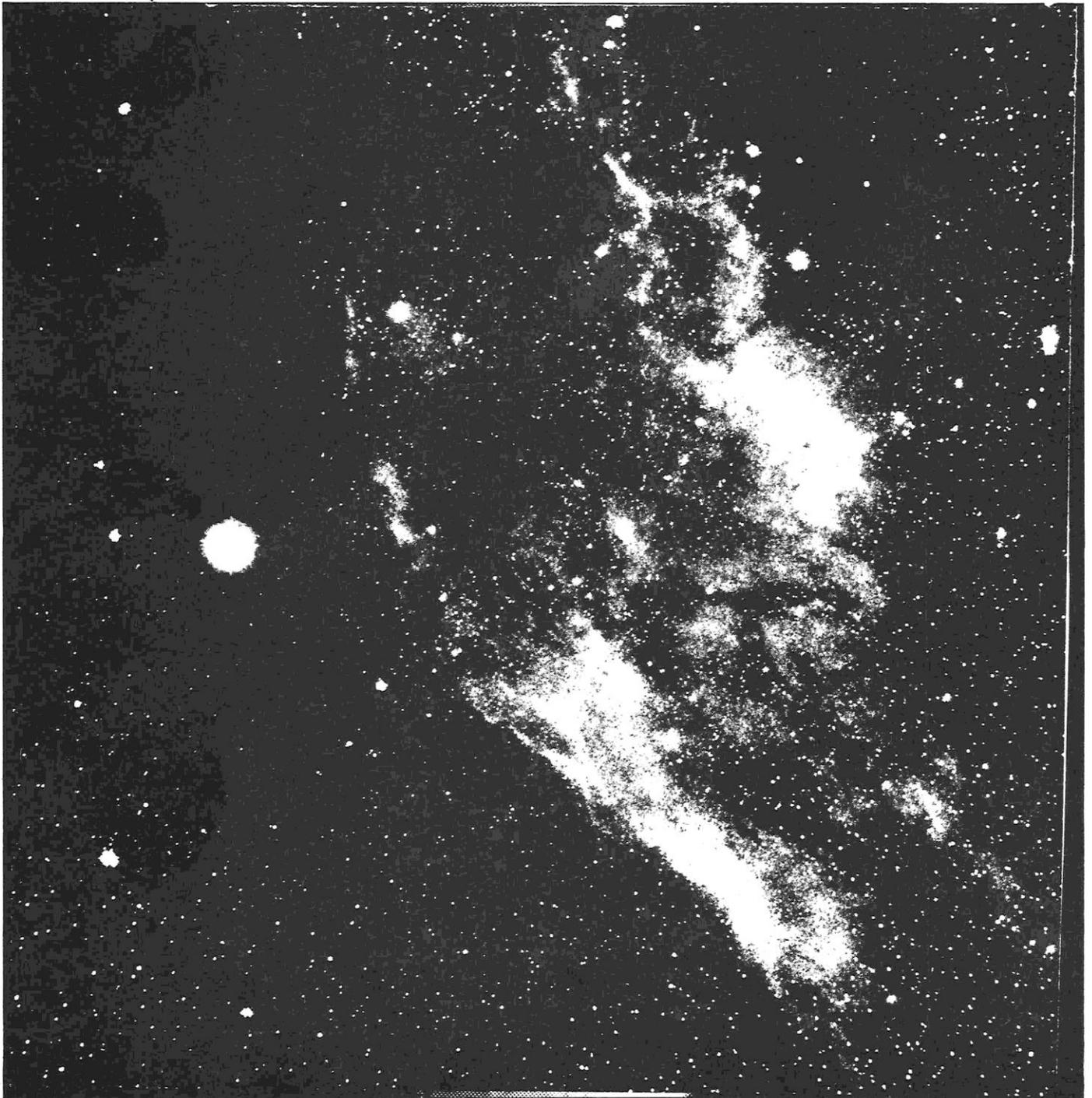
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Journal of the Warren Astronomical Society

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SEPT/OCT 1981

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# Warren Astronomical Society Paper

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Editor: Bob Wilson

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The W.A.S.P. is the official publication of the Warren Astronomical Society and is available free to all club members. Requests by other clubs to receive the W.A.S.P. and all other correspondence should be made to the editor at the above address. Articles should be submitted at least one week prior to the general meeting.

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## W.A.S.

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Warren Astronomical Society  
P.O. Box 474  
East Detroit, MI 48021

President:	Doug Bock	533-0898
1st V.P.:	Frank McCullough	759-5215
2nd V.P.:	Alan Rothenberg	355-5844
Treasurer:	John Wetzel	
Secretary:	Nancy Tomczyk	

The Warren Astronomical Society is a local, non-profit organization of amateur astronomers. The Society holds meetings on the first and third Thursdays of each month. The two meeting locations are listed below:

1st Thursday - Cranbrook Institute of Science  
500 Lone Pine Road  
Bloomfield Hills, MI

3rd Thursday - Green Acres School  
Cousino at Holmes  
Warren, MI 48092  
264-2509

Membership is open to those interested in astronomy and its related fields. Dues are as follows and include a year's subscription to Sky and Telescope.

Student .....	\$12.00	College .....	\$16.00	Senior Citizen .....	\$16.00
Individual .....	\$21.00	Family .....	\$26.00		

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## Stargate

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Observatory Chairman: Alan Rothenberg 355-5844

Stargate Observatory is owned and operated by the Warren Astronomical Society in conjunction with Rotary International. Located on the grounds of Camp Rotary, Stargate features a 12½" club-built Cassegrainian telescope under an aluminum dome. The observatory is open to all club members according to the "Stargate Observatory Code of Conduct."

Lectures are given at Stargate Observatory each weekend. The lecture will be either Friday or Saturday night, depending on the weather and the lecturer's personal schedule. If you cannot lecture on your scheduled weekend, please call the Chairman as early as possible or contact an alternative lecturer. Those wishing to use Stargate must call by 9:00 p.m. on the evening of the observing session. The lecturers for the coming month are:

September 18/19 .....	Doug Bock	533-0898	October 16/17 .....	Dave Harrington
September 25/26 .....	Ray Bullock	879-9458	October 23/24 .....	Frank McCullough
October 2/3 .....	John Root	464-7908	October 30/31 .....	Jim Yax
October 9/10 .....	Lou Faix	781-3338		

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## The cover.

The California Nebula

Warren Astronomical Society  
Schedule of Events

- September 24 Astro-photography sub-group Meeting at Larry Kalinowski's house.
- September 25 Star Party at Stargate - There will be a small session on how to find Constellations and objects in those constellations. There will also be a Messier contest which will be judged by Frank McCullough and Doug Bock. So all you newcomers bring your telescopes for you may be the next Messier Champion. Deep-sky sub-group Meeting.
- September 26 Alternate Star Party date if cloudy on the 25th.
- October 1 Cranbrook Meeting at 7:30 - Bring your latest work in and tell us about it. Your telescope, pictures, drawings, slides or an experiment. We want to hear from you.
- October 15 General Meeting at 7:30 - Place - Green Acres Elementary School library.
- October 16 Star Party at Stargate - Deep sky sub-group will discuss and show how to locate objects that are currently up. Also More constellation locations will be identified for newcomers. This would be a practical time to do some astrophotography.
- October 17 Alternate Star Party if cloudy on the 16th.
- October 22 Astrophotography sub-group meeting at Larry Kalinowski's house.
- November 5 Cranbrook Meeting at 7:30
- November 19 General Meeting at 7:30 Green Acres Elementary School

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Editor's Corner:

I would like to give special thanks to Bob Wilson for the outstanding job he has done in the last year as the Editor of the WASP. Unfortunately for us he has gone on to bigger and better things.

I will take over the Editor's spot for a while until we can coax another (pigeon), I mean person into handling this job. I am soliciting now for articles for this newsletter. The subject Matter can be just about anything as long as it is clean. Astronomical poems are nice once in a while. Cartoons are good also. Technical papers are welcome as long as they are not too long. Try to keep them under 5 pages or we will have to run the article in several parts spanning a few months of the newsletter. So for the time being, send your articles to me at least two weeks before the next general meeting.

Doug Bock (S33-0898)

MINUTES OF THE AUGUST 6, 1981 MEETING OF THE  
WARREN ASTRONOMICAL SOCIETY

Meeting was called to order at 7:50 by our president Doug Bock.

There were approximately 9 new people there. It was nice to see all the new faces.

Four members of our club went to the Regional Convention on July 17 and 18. On August 10 thru the 17 the National Convention will be in Kuntztown Pen.

On July 31 there was a star party at Stargate. About 12 people attended, 6 from Ann Arbor.

Our agreement with Cranbrook is \$200.00 a year and 4 members' night a year.

During the September meetings the members will be voting on whether to incorporate the club.

Our editor, Bob Wilson will need 2 or 3 assistants. Are there any volunteers?

On August 12 the Perseid Meteor Showers will be peaking. Peak time is between land 2 A.M.

Frank McCullough showed slides of the Space Shuttle and we also saw slides of the last lunar eclipse.

RESPECTFULLY SUBMITTED

A handwritten signature in cursive script that reads "Nancy Tomasek". The signature is written in black ink and is positioned below the typed name.

## THE URBAN OBSERVER'S CORNER

Jonathan G. Baditoi

This month, I'd like to talk a bit about nebular filters. Yes, I realize that this paper has, in the past, contained several reports from other observers who have experimented with these filters, but I just have to put in my two-cents worth, too: In fact, it was these earlier reports that finally convinced me that I should have a nebular filter myself.

I chose to purchase my filter from Meade Corp., partly because I have done business with them before, and they have proven to be very reliable. The Meade filters are currently selling for \$60.

The filter arrived on July 3, only fourteen days after the order was mailed. My first chance to use the device came that night. As is often the case at my observing site (12 Mile and Schoenherr area), the sky was very hazy and heavily light-polluted, with a limiting magnitude at the zenith of about 3.0 just the kind of night on which a nebular filter ought to work best, I thought.

After having observed several well-known objects of various types with my eight-inch reflector, I'll admit that I was very disappointed. Although the filter did add slight contrast to some objects, and in some cases even reveal objects that could not be seen without the filter, the results were certainly not worth \$60: One thought ran through my heads " \*#&@ \$?%:". I then realized that perhaps the heavy amount of haze was affecting the performance of the filter. I decided to wait for a very clear, haze less night.

That night came on July 9, on what may have been the clearest, most transparent night I've ever witnessed around my place. I began observing around midnight, soon after the moon had set. I started with a couple of well-known planetary nebulae, M-57 and M-27 (the "ring" and "dumbbell", respectively). This time, I was impressed: The filter has a more pronounced effect on M-27 than any other object I've observed, Showing it as two blobs of nebulosity in contact, surrounded by a faint glow forming a complete circle. The ring-nebula also showed great improvement. I moved on to M-97 and M-76, two other relatively faint planetaries, neither of which I had ever seen before in my area. With the aid of the filter, they both "popped" right into view. I was particularly impressed with M-76 (also known as the "barbell-nebula". It actually resembled a barbell, and looked very much like a miniature M-27. The filter was beginning to pay for itself.

Next, I decided to try a few diffuse nebulae. Turning the scope toward the Sagittarius region, which was buried in light pollution from nearby Twelve-Mile, I searched for and found M-8 (the “Lagoon Nebula”). This object normally appears as a very small hazy spot, with a bright open cluster in the same low-power field. With the filter, however, I found it to consist of two large patches of nebulosity separated by a dark lane. One of the patches engulfed the cluster completely. Moving on to nearby M-20, which I had never seen before, I picked it up immediately, although it showed very little structure.

Then for the acid test—the Veil Nebula! Now, I know what many of you are thinking, but please read on anyway. I had seen the Veil only once before, at Stargate, and even then it was only visible with the aid of a nebular filter owned by Bob Wilson. Despite this, I decided to give it a try. Scanning near the fourth-magnitude star  $\epsilon$  Cygni, the western half of the Veil was soon found with some difficulty. This object, NGC 6960, is actually not the brighter part of the Veil. NGC 6992, which lies about one degree to the east, is slightly brighter. In fact, I found it to be much easier to find than its fainter counterpart, despite the lack of any bright guide stars nearby. It appeared as a thin, curving arc with a “braided” structure, about a degree long.

Since the filters were designed to be used primarily on emission nebulae, their effect on other objects such as globular clusters and galaxies; is much less dramatic. After observing several of these objects with the filter, I found a slight improvement on the visibility of the globulars, but almost no improvement for galaxies. Would I recommend the purchase of a nebular filter to my fellow Urban Observers plagued by light-polluted skies? I most certainly would! If you're like me, usually confined to an inner-city observing site, one of these filters could open up a universe that you could previously only dream about. In my opinion, that's worth the \$50-\$60 you can expect to pay for one of these devices.

Note to skeptics: If you'll come around on a clear night, I'll be happy to prove to you that the Veil Nebula can be seen from the Twelve-Mile-Schoenherr area!

Next Month. We'll be starting a four-part series describing a complete “do-it-yourself” photographic setup, including a camera, film processing equipment, an enlarger, and equipment for long exposure astrophotography, for less than \$40.

## MOUNT WASHINGTON OBSERVATORY REACTIVATED— ASTRONOMICAL COMMUNITY REVITALIZED

(UPE) At a press conference held today in Washington (Michigan), President Roland Reegun announced that the Mount Washington (Michigan) National Observatory was returning to an active status following the completion of an extension renovation program. The Observatory's Director, Ludwig von Fix, indicated the gigantic 254 millimeter main telescope has completed qualification tests and was judged to be in prime condition. Operating efficiency will also be enhanced by the new high-speed rotating dome. The Director noted that a brilliantly coordinated plan for redesign and reconstruction was masterfully executed in record time by a highly skilled team of scientists, engineers and construction technicians. Mount Washington (Michigan) National Observatory was removed from service on July 1st and restored to operation on September 1st.

News of reactivation of Mount Washington (Michigan) National Observatory was universally hailed by leaders of the astronomical community. In Moscow, Timoski Skoniecznikovichikoff, speaking in behalf of the International Astronomy Union, hailed the reactivation of Mount Washington Observatory as "probably the most significant event of this century." He acknowledged that the performance of the 254 millimeter telescope would eclipse Russia's 236 telescope and restore America to the position of preeminence in international astronomy. He also expressed the hope that the comrades at Mount Washington would promptly share their great discoveries with the anxious world community of scientists.

At Kite Peak Observatory, Director, Dik Rill expressed relief and gratification at the news of Mount Washington (Michigan) National Observatory's return to active duty. Doctor Rill indicated that while the staff at Kite Peak had redoubled their efforts to fill the void left by Mount Washington's temporary absence, the absence of Mount Washington's contribution had had a "telling effect on the scientific community." When questioned about the relevance of Kite Peak, now that the Mount Washington (Michigan) National Observatory was operational again, Doctor Rill stated: "We hope to be able to play a strong supporting role behind Mt. Washington's leadership." Dr. Rill noted that the 254 millimeter telescope and Mt. Washington's "pristine skies" should make it possible to analyze stars of the 42nd magnitude.

In London, The Royal Astronomer, Fredrick D. (big Doug) Boilck, known for his not so steady state theory (the seeing was poor that night), stated that the news of Mount Washington (Michigan) National Observatory reactivation was "just sterling--stout--bully--and all that balderdash." Doctor Boilck indicated that with Mount Washington operational with increased capability, astronomers were "now ready for a final assault on the mysteries of the universe."

In Stockholm Sveden, astronomer Peter Kventuk, originator of the famous K Catalogue, babbled in exuberance when told of Mount Washington's return to operational status. Doctor Kventuk expressed the belief that "the universe will now surrender its answers to the ultimate question--what does it all mean?"

## PERSEID REPORT

Jonathan Baditoi

On the night of August 11/12, a small group of W.A.S. members, including myself, gathered at the Bald Mountain State Park, near Pontiac, to observe the maximum of the Perseid meteor shower. Peak activity was expected to be around 2 a.m., with a rate of 60/hour.

When the watch began at 04:15 UT (12:15 a.m.), conditions were less than favorable, with ever-thickening ground fog, and a waxing gibbous moon low in the south. The Perseid rate at that time was averaging twenty per hour. By 06:30 UT, the count had increased to thirty an hour, and conditions were improving drastically. The moon had just set, and the ground fog seemed to be thinning out somewhat. By 07:30 UT, the rate was nearly 50/hour, and conditions were perfect: the milky-way stretched from horizon to horizon, and a limiting magnitude of 5.5 was recorded at the zenith. After a slight decrease between 07:30 and 08:30 UT, possibly due to a temporary increase in fog, the rate climbed to almost 70/hour. The watch was terminated at 09:00 UT.

A total of 134 Perseids were seen, along with 9 sporadics. One third (3 of 9) sporadics were found to originate from the area near Epsilon Pegasi. These could have been members of the new Pegasus Shower, or they may have been remnants of the prominent Delta Aquarids, which peak in late July.

The color distribution of the Perseids seemed to be evenly distributed among yellow (28%), orange (28%), and white (27%), with a lesser number of blue members (17%). The peak-magnitude of the shower members was around 2.5, although several bright fireballs, some as bright as -4 mag., were seen. (see figure #2).

The fact that the shower rate continued to increase dramatically after the predicted time of maximum can be attributed to the fact that the altitude of the radiant increased throughout the night. (see fig. #1).

FIGURE #1

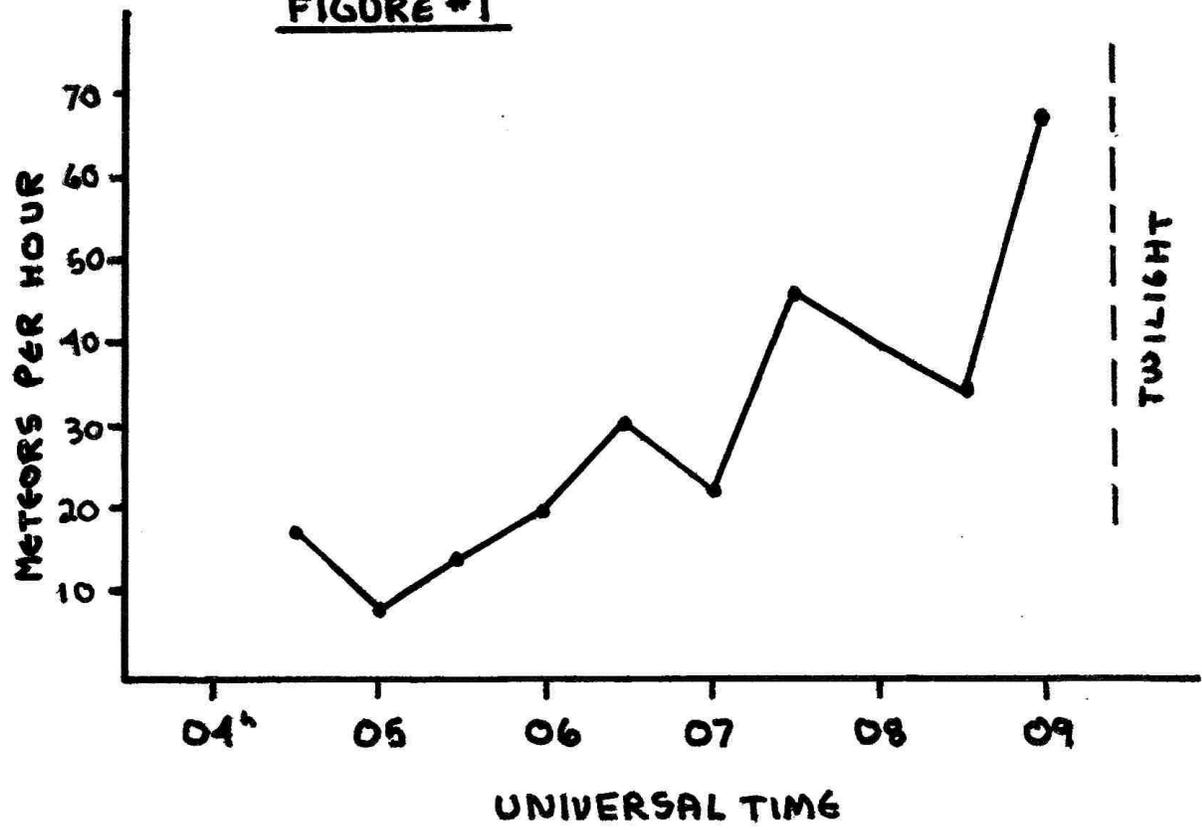
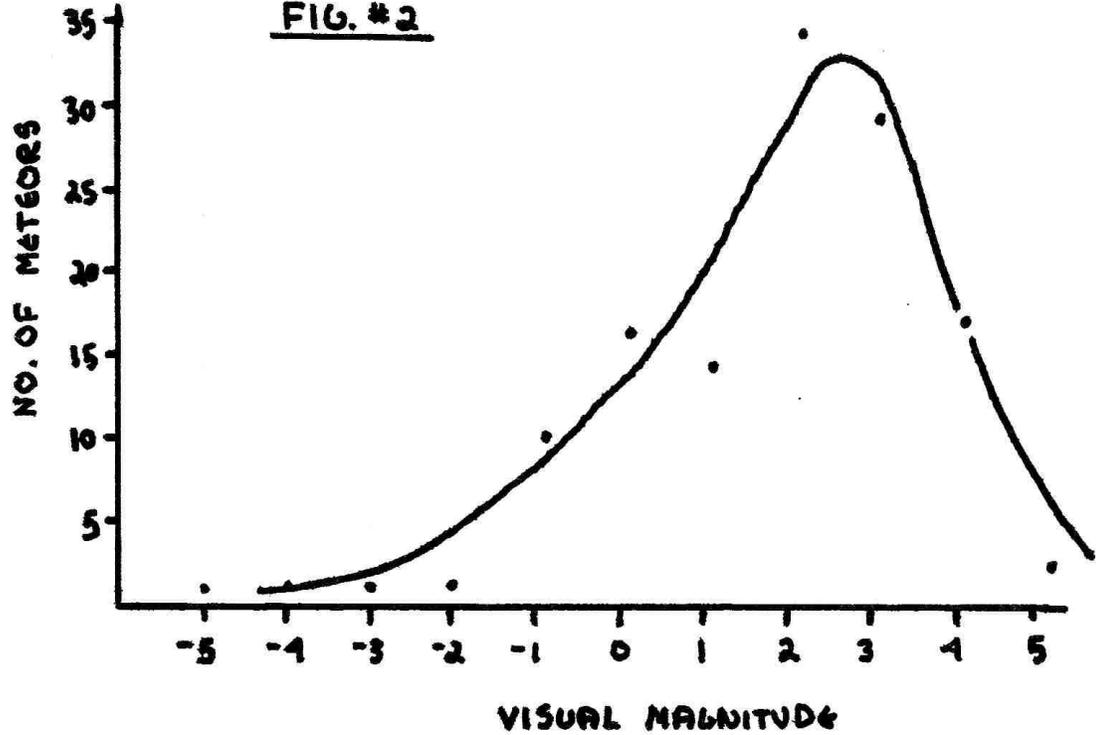
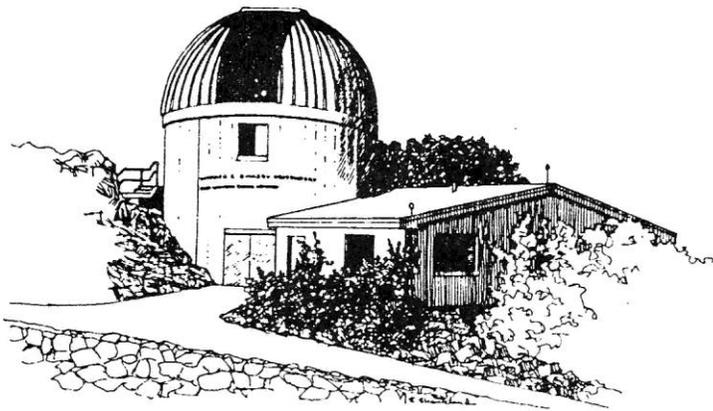


FIG. #2





Warner and Swasey Observatory  
Kitt Peak Station

## WARNER AND SWASEY OBSERVATORY

KITT PEAK STATION  
BOX 26732  
TUCSON, ARIZONA 85726

*Dear Friends,*

*Something devastating is about to happen to U. S. astronomy, but, you may be able to stop it. .*

*Throughout our history civilization has always encroached upon our finest observatories and limited their usefulness. This is inevitable since our cities and population are both constantly growing. Our aim, therefore, is to put our telescopes where we can maximize their useful life. Though the onslaught of civilization cannot be stopped, the placement of institutions and industries harmful to astronomical research, in close proximity to our telescopes, must be stopped.*

*Earlier this year the United States Air Force and the Air National Guard announced that they were going to build a new airstrip within 8 miles of Kitt Peak National Observatory (KPNO). The reasons for this are to avert a disaster. Presently the U.S. Air Force operates out of Davis-Monthan Air Force Base and the Air National Guard from a base near the Tucson International Airport. Originally these bases were well south of the city of Tucson, but, as stated earlier, civilization has grown and engulfed the airbases. Today training flights of all sorts of aircraft are forced to fly over the densely populated areas of Tucson. About two years ago one of these jets crashed into a subdivision. Though that crash resulted in some destruction and loss of life a potential for a greater disaster does exist. So the citizens of Tucson, the Air Force and Air National Guard are in agreement that a move is necessary. However, the agreement ends there;*

*When the location for the airstrip was announced there were three major outcries. First, the residents near the planned site, mostly ranchers, don't want the jets flying over them.*

*Secondly, the Papago Indian Reservation (which we lease Kitt Peak from) was upset because the proposed airstrip bordered on the reservation, yet they were never consulted. This has led to further deterioration of already strained relations.*

*Thirdly, in the past we have always received support from local governments and businesses in curbing light pollution. In keeping with this support the public is joining with astronomers in opposition to the airstrip and the effect it would have on astronomy.*

*Kitt Peak National Observatory is the largest astronomical observatory in the world. Millions of tax dollars have been spent here over the last several decades. The replacement cost is conservatively placed at 100 million dollars. It is a unique facility*

that would, under normal circumstances, be the heart of U. S. astronomy into the 21st century. However, with the impending airstrip, the very life, in this decade, of this paragon of astronomy, is threatened. This airstrip would seriously compromise useful astronomical research. The Air Force and Air National Guard, in efforts to allay these fears, have promised to fly only in daytime and below 5000 feet. But, once the airstrip exists this promise would be all too easily broken.

There is a further problem. If they do begin operation from such an airstrip, it is only a short while before people would move nearer the facility. Soon another town would spring up.

There is a good solution. There are eleven old fields in southern Arizona which could be considered more seriously. The best of these is located between Tucson and Phoenix called Marana. This is a relatively unpopulated desert area near a community which needs the business an airstrip would bring. This airfield would be no further from Tucson than the proposed site, and Air Force and Air National Guard would be making many friends here, as well as protecting the unique astronomical facilities of KPNO.

Kitt Peak National Observatory is a federally funded operation. Therefore, you have an investment here. It seems a criminal waste to allow millions of dollars of research equipment become useless so we can spend millions more putting in an airstrip that will create poor relations with so many. To date only two public officials have come out in favor of this project. I believe others are waiting to hear from the people. Here is where you can come in to help the professional astronomical community. We believe it would be highly significant if we could show the Air Force and Air National Guard that nationwide attention is now focused on this issue. It is for this reason that we are asking all of you to give us a half-hour of your time to insure the leading role that U. S. astronomy plays in the world. Please, write a letter to each of the political representatives listed below and let them know how we feel before the final decisions are made. Remember, through your tax dollar, you own Kitt Peak, so help us protect your investment!

The Honorable Bruce Babbitt  
Governor of Arizona  
9th Floor 1424  
1700 West Washington  
Phoenix, Arizona 85007

The Honorable Morris K. Udall  
Congress of the United States  
House Office Building  
Washington, D. C. 20515

Senator Dennis W. De Concini  
4104 Dirksen  
Senate Office Building  
Washington, D. C. 20510

Senator Barry Goldwater  
Suite 337  
Russell Senate Office Building  
Washington, D. C. 20510

Sincerely,

Richard E. Hill  
Warner & Swasey Observatory  
Kitt Peak Station