UPCOMING EVENTS

JANUARY 1993

1-4 Monday: Quadrantid Meteor Shower
1-8 Friday: Full Moon
1-14 Thursday: Board of Directors Meeting-7:00 p.m.
       Last Quarter Moon
1-16 Saturday: Monthly Meeting of the Society at Regener Hall on the
       UNM campus-7:00 p.m. See map on the back on this newsletter.
       (THIS IS A CHANGE IN SCHEDULE)
1-22 Friday: New Moon
1-23 Saturday: Dark Sky night at Twining Observatory
1-30 Saturday: First Quarter Moon

FEBRUARY

2-6 Saturday: Full Moon
       Monthly Meeting of the Society
2-11 Thursday: Board of Directors Meeting-7:00 p.m.
2-13 Saturday: First Quarter Moon
2-20 Saturday: Dark Sky night at Twining Observatory
2-21 Sunday: New Moon
       Mercury at greatest elongation
2-28 Sunday: Moon 3.5 degrees south of Pleiades

ANNUAL DECEMBER POTLUCK DINNER

The annual pot luck dinner held at St. Paul's United Methodist Church was a great success. This tradition was started several years ago and has proven to be one of our favorite events. Even though the evening was cold it was calm. About 35 to 40 people showed up with their most delicious dishes, snacks, and desserts. Reverend Gerald White welcomed us to the church and shared some of his astronomical interests with us. We have been fortunate to have been permitted to use the church facilities for the past several annual dinners. Mac Morgan brought his Maksutov telescope that had some fine brass machine work done on it by Brock Parker. George Dulleck brought his television monitor and VCR and showed the December 9th total Lunar eclipse and the momentous raising of the dome onto the Society observatory. Blair Johanson showed off some of his photographic enlargements.

This was a great time for people to talk, show pictures, and enjoy great food of astronomical proportions. Seconds or thirds anyone?.

Bruce Levin

THE JANUARY MEETING

Where has the year gone? It seems like only a few months ago we were standing out in the middle of nowhere...dedicating an observatory.

1992 was a good year! The year a dream became a reality...the year the promise was fulfilled.

The final meeting of '92 will be held on January 16 at Regener Hall (See map on the back of this newsletter). The meeting will begin at the usual time, 7 p.m.

At our January meeting, Vice President George Dulleck will be hosting a slide presentation of The Year That Was. And, as usual, our January meeting will also be election night.

With the close of '92 comes the end of my tenure as your president. It has been an honor to serve such a wonderful group of people...but, the time has come for me to stand aside and give someone else a chance.

The election of new officers may hold a surprise or two for some of you. I'm sure you will be delighted with the nominees you will be introduced to. If not, your vote will count!

As usual, the cookies and coffee will be on hand for our social hour after the meeting. I look forward to seeing you there.

George S. Pellegrino, President
Star Hill Inn
an astronomers’ retreat
in the rockies
Phil and Blair Mahon
sapello • new mexico, 87745 • 505-425-5605

SUMMARY OF THE THURSDAY,
DECEMBER 17, 1992 BOARD
MEETING

The meeting was
called to order at 7:04
p.m. The Treasurer
reported $2060.14 and $375.36
respectively in the observatory and
general funds. The membership
update and correspondence report was
given by the Secretary.

Old business discussed were
nominations of officers for the up-
coming Annual Meeting of the Albu-
querque Astronomical Society, obtaining a motor for operating the
Society observatory dome, and Non-
profit status paperwork requested by
the IRS. Long time members, Bill
and Wynne Wood volunteered to be
nominated as co-presidents of the
Society for the upcoming year.
Secretary Bruce Levin and Treasurer Bob Stetz stated that they
will continue in their offices if
renominated and re-elected. Vice
President George Dulleck indicated that he will continue in his position
unless another Society member is
willing to serve, be nominated and
elected to the position. The position
of the board is to get as many mem-
ers as possible to become active in
running and participating in the
Society.

Several new business items were
discussed. Mac Morgan put forth an
occultation interest ballot to see if
the board members felt that the occu-
tation timing articles should be
continued in the newsletter. The
board voted 5 to 2 in favor of con-
tinuing the Occultation Update ar-
ticles. Generally, this year has
not been favorable to observing
weatherwise, which has resulted in
lack of participation by the member-
ship in activities such as occultation
timing. Occultation timing is one of
the easiest activities to get scientific
data. It is also very interesting to
see a lunar graze occultation in
progress. So do not be bashful—
call up Mac if you are interested!

George Dulleck mentioned that Sun-
set magazine plans on running an
article in March about the General
Nathan Twining Observatory as one
of the interesting places to visit in
New Mexico for those interested in
seeing the universe from our clear
night skies. Mac mentioned that the
plaque recognizing the help, resour-
ces, and services provided in the
construction of the Society Observ-
atory (lifting the dome in place) was
delivered this day to the New Mexico
Travertine Company.

George Dulleck also mentioned that
research proposals can be made for
use of the Hubble Telescope. Dr.
Bel Campbell can be contacted for
further information.

The December Pot Luck Dinner and
January Annual Membership meet-
ings were discussed. A motion was
unanimously passed to delay the
January meeting one week to be on
January 16th instead of the originally
scheduled date of January 9th. The
newsletter articles were assigned
and the meeting adjourned at 8:13
p.m.—a record for the board!

HARVARD ASTRONOMER TO
DELIVER PUBLIC LECTURE IN
SOCORRO

The National Radio Astronomy Ob-
servatory will host a public lecture by
Harvard professor Dr. Irwin I.
Shapiro on February 9, 1993, at 8:00
p.m., in Macey Center on the cam-
pus of the New Mexico Institute of
Mining and Technology in Socorro.
Dr. Shapiro, Professor of Practical
Astronomy and Professor of Physics
at Harvard University and Director of
the Harvard-Smithsonian Center for
Astrophysics, is recipient of the
twenty-seventh Karl G. Jansky Le-
tureship, awarded by Associated
Universities, Inc., and the National
Radio Astronomy Observatory.

Dr. Shapiro will speak on Reckoning
the Size of the Universe Through
Gravitational Lenses. The event is
free and the public is cordially in-
vited.

Dr. Shapiro has won numerous na-
tional awards for his research in
radio and radar astronomy including
many important discoveries in the
fields of astrometry, astrophysics,
geophysics, planetary physics,
gravity, and General Relativity.

The Jansky Lectureship, established
by the Trustees of Associated
Universities, Inc., and first awarded
in 1966, is named in honor of the
man who, in 1931, first detected
radio waves from a cosmic source.
His discovery of radio waves from
the central region of our Milky Way
galaxy started the science of radio
astronomy. Recent recipients of the
Jansky award include Dr. Alan
Sandage, of the Observatories of
the Carnegie Institution (1991); the
late Prof. Alan H. Barrett, of Mass-
achusetts Institute of Technology
(1990); Prof. Joseph H. Taylor of
Princeton University (1989); and
Nobel Laureate Prof. William F.
Fowler of the W.K. Kellogg Radia-
tion Laboratory, California Institute
of Technology (1988).

To reach Macey Center from Albu-
querque, drive south to Socorro on I-
25 and take Exit 150 onto California
Street. Turn right at Bullock Avenue
(Kentucky Fried Chicken on the cor-
ner) and proceed onto the Tech
campus. Macey Center will be on
your right about 100 yards after
passing through the gate onto the
campus.

Dave Finley

SOCIETY MEMBERS MAKE
SCHOOL STAR PARTY A
SUCCESS

On the first quarter moon
night of December 1st,
Griegos Elementary
MEMBERSHIP UPDATE

The Society presently has 158 general members, 47 family members, and 4 honorary members. Thank you to those of you who have renewed. The Society wishes to welcome the following members who have joined since September 1992:

Austin & Gerald Lindsey  Steven S. Bonds  Lisa Durkin
Kevin & Quentin Glassco  Terry Quintero  David Glidden
Nick & Jeanette Nichols  Georgi Stamboliev  Dianna Kinney
Renee K. Philipbar  Charles Glascoc  Bushrod Lake
Elizabeth & Donald Monteith

School held its first star party with the help of The Albuquerque Astronomical Society from 7 to 9 p.m. The school science advisor, Janise Baldo-Palski, from Sandia National Laboratories requested the Society's help for telescopes and operators to show the school children, their parents, and teachers the wonders of the universe. Approximately two hundred people showed up for the event including the school principal. Most of the attendees had never looked through a telescope before.

George Dulleck set up his telescope with a video camera and T.V. display terminal to look at the moon, its terminator and craters. The other participating members were Estrella Dulleck, Roger Fiegel, John Hockemeier, Jon Knutson, Bruce Levin, Wilfred Pedroncelli, Doug and Ellen Ray, and Mark Rumsey. Numerous objects were viewed including the Andromeda Galaxy, the Ring Nebula, Double Epsilon Lyra, the Pleiades, the double cluster in Perseus, and the Orion Nebula.

Even though the night was on the cold side, the participants were bundled up to keep warm. The hot cider and wide selection of tasty cookies were welcome snacks to help make this a most enjoyable evening.

Bruce Levin

HONEYWELL MAKES CONTRIBUTION TO THE SOCIETY

The Defense Avionics Systems Division of Honeywell Incorporated recently donated $500.00 to the Albuquerque Astronomical Society. This money will be used for the purchase of cameras and/or photographic equipment necessary to make the General Nathan Twining Observatory more effective as a teaching and research resource. Our Society expresses its thanks to Honeywell's generous contribution to benefit our organization in furthering our goals of educating the public and enhancing our research capabilities in astronomy for the schools and our society!

Bruce Levin

UPCOMING EDUCATIONAL EVENTS

There have been requests made for two respective star parties the last two weeks in January around the Wednesday evenings of January 20th and 27th. The first request was placed by Reverend Gerald White of St. Paul's United Methodist Church, where we held our annual pot luck dinner, for the eclipse visible from New Mexico since 1989 (actually the 1989 eclipse was clouded out). Mac Morgan and Wilfred Pedroncelli were present to try and do several occultation timings while I was hoping to take some interesting photographs and video.

The Moon was going to come up while already in totality and the hope was that the moon would have a red color which would could produce an interesting photograph. The color turned out to be similar to the color in the June partial eclipse—black!! We could not see the moon at all until it was barely sunlit!! Even though the eclipsed portion of the Moon was very dark some interesting effects were visible as the Moon started to reappear. Very early during the reappearance same faint light was seen leading away from the sunlit section along the edge of the Moon. As the reappearance continued the shadow did not show a smooth curve (for an example see Sky & Telescope December '92 issue page 688 - drawing top right is similar but with steep curve at edge bending toward center rather than away). The remainder of the eclipse was uneventful except for some of the larger crater reappearance's which were interesting through binoculars or telescope.

Mac and Wilfred were unable to observe any of the occultation's due to the faint magnitude of the stars and high clouds which "washed out" any possible observation of the "dim" stars.

George Dulleck

OBSERVER'S NOTEBOOK

December 9th 1992—Total Lunar Eclipse

On the evening of December 9th several Society Members went to the west side of Albuquerque to view the first total lunar
EL CIELO ESTRELLADO
At the Feet of the Hunter

Two fairly bright constellations, Lepus the Hare and Columba the Dove, lie directly south of mighty Orion. Nearly overwhelmed by the splendor of the “Winter Hexagon” stars, Lepus and Columba would stand out easily if placed in other regions of the celestial sphere. Both groupings contain several luminaries in the magnitude 2.5-4.0 range. In general, these stars lie much closer than the distant blue beacons in Orion.

The fact that Lepus is overshadowed by Orion’s brilliance figures in the lore associated with these constellations. As the Hunter approaches, the Hare crouches motionless and unseen near his feet. In this manner, the cunning Hare has avoided capture for eons. Columba the Dove is also a resourceful creature. This constellation has been associated with the dove that Jason sent ahead to test the clashing rocks of the Symplegades (both the dove and Jason’s ship narrowly escaped this danger) and also with the bird that Noah sent out to see if the flood waters had receded.

Lepus and Columba contain a nice selection of deep-sky treasures, including multiple stars, globular clusters and some fairly bright galaxies. The lone Messier object in these two constellations is the rich globular cluster M79 (2000.0 Coordinates: R.A. 5 hr. 24.5°, Dec. -24° 33’). In terms of luminosity, M79 is a rather ordinary globular (absolute visual magnitude -7.5); however, this object is interesting in that it is one of a handful of clusters that lie south of the galactic plane and further out on the disk (i.e., along galactocentric coordinate X) than the Sun. Two other bright globulars in this category are NGC 1851 (5 hr. 14.1°, -40° 03’) in Columba and NGC 2298 (6 hr. 49.0°, -36° 00’) in nearby Puppis. Distant Palomar 2 in Auriga also falls in this group. For the portion of sky “below” the Milky Way, these objects collectively represent the rapidly thinning population of globulars away from the galactic center.

Interestingly, M79, NGC 1851 and NGC 2298 reside at very similar distances (11-13 kpc) from the Earth. At visual magnitude 7.2, NGC 1851 is actually the brightest of the three clusters. Poorly placed for northern observers, it is still worth examination on a transparent, haze-free night. NGC 1851 exhibits a bright core consistent with its Shapley-Harlow concentration class (I). About 70 stars to 6-8” are needed for partial resolution of the cluster. M79 is a half-magnitude fainter but much more favorably positioned. This object was discovered by Pierre Mechain in 1780. When viewing M79, an added visual bonus is the fine multiple star Herschel 3752 (5 hr. 21.8°, -24° 46’) that lies in the same low-power field (35° WSW of the cluster’s center). Herschel 3752 consists of a close, color-contrast pair (3’ separation, mag. 5.4 and 6.6, respectively) and a fainter (mag. 9.1), wide companion. At visual magnitude 9.2, NGC 2298 is the “runt” of the three globulars and it is difficult to resolve. Can you “bag” all three of these clusters?

For the most part, the galaxies in Columba and Lepus fall into two groups. Most of the larger and brighter objects belong to the “nearby” Dorado Cloud of galaxies. Members include NGC 1744 (5 hr. 00.0°, -25° 01’), NGC 1792 (5 hr. 05.2°, -37° 59’), NGC 1800 (5 hr. 06.4°, -31° 57’), NGC 1808 (5 hr. 07.7°, -37° 31’) and NGC 2090 (5 hr. 47.0°, -34° 14’). Estimated distances to these galaxies (R. Brent Tully, Nearby Galaxies Catalog, Cambridge Univ. Press, New York, 1988, pp. 37-40) range from 7.4 to 13.6 Mpc. At visual magnitude 9.9, NGC 1808 is the brightest galaxy in the two constellations; however, NGC 1792 (mag. 10.2) exhibits substantially higher surface brightness. Members of the more distant Lepus Cloud of galaxies also populate Columba and Lepus. The list includes NGC 1784 (5 hr. 05.4°, -11° 52’), NGC 1832 (5 hr. 12.1°, -15° 41’), NGC 1954 (5 hr. 32.8°, -14° 04’), NGC 1964 (5 hr. 33.4°, -21° 57’), NGC 2139 (6 hr. 01.1°, -23° 40’), NGC 2179 (6 hr. 08.0°, -21° 45’) and NGC 2196 (6 hr. 12.2°, -21° 48’). These galaxies reside at distances of 20-40 Mpc (Tully, ibid., pp. 37-42). NGC 1954 is the brightest of a compact galaxy group that includes three other members visible in medium to large apertures.

Two other interesting objects can be found in Lepus. R Leporis (4 hr. 59.6°, -14° 48’) is a well-known long-period variable star. Also known as Hind’s Crimson Star, this deep red beacon competes with M79 for the “honor” of most commonly observed object in Lepus. R Lep varies between mag. 6 and mag. 10 with a period of approximately 430 days. The last maximum for R Lep occurred a few months ago [Editor’s note: This article originally appeared in January, 1991] but this star is always fascinating. In fact, the deep red color seems more obvious when the star is well below maximum. NGC 2017 (5 hr. 39.4°, -17° 51’) is a compact cluster containing five prominent stars (mag. 9.5 or brighter). Look for color contrast in these luminaries. The cluster also contains two close double stars. Can you spot these objects?

Wayne Trott

Reprinted with permission of the Albuquerque Astronomical Society
### February 1993 Lunar Almanac

<table>
<thead>
<tr>
<th>Date</th>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>09:32</td>
<td>09:32</td>
<td>09:32</td>
<td>09:32</td>
<td>09:32</td>
<td>09:32</td>
<td>09:32</td>
</tr>
<tr>
<td>3</td>
<td>08:48</td>
<td>08:48</td>
<td>08:48</td>
<td>08:48</td>
<td>08:48</td>
<td>08:48</td>
<td>08:48</td>
</tr>
<tr>
<td>5</td>
<td>06:59</td>
<td>06:59</td>
<td>06:59</td>
<td>06:59</td>
<td>06:59</td>
<td>06:59</td>
<td>06:59</td>
</tr>
<tr>
<td>6</td>
<td>05:53</td>
<td>05:53</td>
<td>05:53</td>
<td>05:53</td>
<td>05:53</td>
<td>05:53</td>
<td>05:53</td>
</tr>
</tbody>
</table>

**Albuquerque, NM**
**Time Zone:** MST  
**Latitude:** 35.08  
**Longitude:** 106.65

- **MR** = Moonrise, upper limb on horizon.  
- **TR** = Transit, moon is due south and also highest in the sky.  
- **MS** = Moonset, upper limb on horizon.  
- **Times are rounded to nearest minute.**

- **RA** = Azimuth of rising moon.  
- **TA** = Altitude of moon at transit.  
- **SA** = Azimuth of setting moon.  
- **Altitudes and azimuths are in degrees.**

**Moon phase is shown each day at 12:00 noon in the time zone indicated.**

**Calendar by Ray Stermer**  
**Johns Hopkins Applied Physics Lab.**  
**Laurel, MD 20707**

---

### February 1993 Solar Almanac

<table>
<thead>
<tr>
<th>Date</th>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>08:17</td>
<td>08:17</td>
<td>08:17</td>
<td>08:17</td>
<td>08:17</td>
<td>08:17</td>
<td>08:17</td>
</tr>
<tr>
<td>2</td>
<td>07:27</td>
<td>07:27</td>
<td>07:27</td>
<td>07:27</td>
<td>07:27</td>
<td>07:27</td>
<td>07:27</td>
</tr>
<tr>
<td>3</td>
<td>06:37</td>
<td>06:37</td>
<td>06:37</td>
<td>06:37</td>
<td>06:37</td>
<td>06:37</td>
<td>06:37</td>
</tr>
<tr>
<td>4</td>
<td>05:47</td>
<td>05:47</td>
<td>05:47</td>
<td>05:47</td>
<td>05:47</td>
<td>05:47</td>
<td>05:47</td>
</tr>
<tr>
<td>6</td>
<td>04:09</td>
<td>04:09</td>
<td>04:09</td>
<td>04:09</td>
<td>04:09</td>
<td>04:09</td>
<td>04:09</td>
</tr>
</tbody>
</table>

**Albuquerque, NM**
**Time Zone:** MST  
**Latitude:** 35.08  
**Longitude:** 106.65

- **MA** = Morning astronomical twilight, sun is at 18 degrees altitude.  
- **MN** = Morning nautical twilight, sun is at 12 degrees altitude.  
- **MC** = Morning civil twilight, sun is at 6 degrees altitude.  
- **SR** = Sunrise, upper limb on horizon.  
- **TR** = Transit, sun is due south and also highest in the sky.  
- **SS** = Sunset, upper limb on horizon.  
- **EC** = Evening civil twilight, sun is at 6 degrees altitude.  
- **EN** = Evening nautical twilight, sun is at 12 degrees altitude.  
- **EA** = Evening astronomical twilight, sun is at 18 degrees altitude.  
- **Times are rounded to nearest minute.**

- **RA** = Azimuth of rising sun.  
- **TA** = Altitude of sun at transit.  
- **SA** = Azimuth of setting sun.  
- **Altitudes and azimuths are in degrees.**

**Calendar by Ray Stermer**  
**Johns Hopkins Applied Physics Lab.**  
**Laurel, MD 20707**

---

*February 1993*
DUES: Please note the expiration date on your mailing label. If you are due for membership renewal, you may send your dues by mail to our newsletter return address with your check written out to The Albuquerque Astronomical Society or give your check to the Treasurer at the next meeting. Please include the membership application that is sent with your newsletter when it is time to renew. Discount subscriptions to Sky and Telescope ($20/12 issues), Astronomy ($16/12 issues) and Odyssey ($16.95/12 issues) magazines, and books through Sky Publishing Corporation are available at a reduced cost when purchased by The Albuquerque Astronomical Society members through our Society. Include any of the above magazine renewal mailers and subscription payment as part of your renewal check. Membership dues are $20.00 per year and $3.00 per additional family member. Membership Packets cost $1.75 each for new members or renewing members without the Packet. Contact the Treasurer for more information.

NEWSLETTER ARTICLES: Personal astronomical classified advertisements and articles can be submitted within 5 days after the latest Society meeting in order to make it into the next newsletter. Business card size advertisements for businesses related to astronomy are accepted with the same deadline as articles and personal classified advertisements. Rates for business card size ads are $10/ad per issue of the Sidereal Times, $7/ad per issue for six continuous issues, and $5/ad per issue for twelve continuous issues. The Newsletter Editor reserves the right to include and/or edit any article or personal classified or business card size advertisement. Computer files in ASCII format are preferred. Contact the Newsletter Editor for more information. Since August, 1989, the Sidereal Times has been typeset on an Atari Mega ST4 and an IBM SLM804 postscript-compatible laser printer, using Pagestream and Ultrascript.

CHANGE OF ADDRESS: Note that the Sidereal Times is mailed out at non-profit bulk rate. The newsletter will not be forwarded to your new address if you move! Please provide the Secretary with your new mailing address to insure that you receive your newsletter.

Map To Regener Hall

The Albuquerque Astronomical Society
P.O. Box 54072
Albuquerque, NM 87153
Address Correction Requested

Society Staff
Board Members
George Pellegrino 821-8516 (home)
George Dulieck 293-7994 (home)
Bruce Levin 299-0891 (home)
Bob Stetz 842-5281 (home)
Mac Morgan 296-3983 (home)
Douglas Ray 892-1596 (home)
Helen Brasfield 268-4885 (home)
Art Jacobs 344-4985 (home)
Blair Johanson 296-9320 (home)
Wilfred Pedroncelli 344-7683 (home)
Non-Board Members
Michael Fisk 268-4885 (home)
Lee Mesibov 899-3725 (home)
John Hockemeier 293-5133 (home)
Steve Williams 898-4885 (home)