- Club Officers -

President: Bruce Levin, 299-0891
Vice-President: George Pellegrino, 821-8516
Sec/Treas: Jim Cox, 1-832-6466 @ home, 293-5061 @ work

DECEMBER 1987

UPCOMING EVENTS:
12-5 Saturday: Full moon.
12-12 Saturday: Potluck dinner.
12-13 Sunday: Last quarter moon.
12-14 Monday: Geminid Meteor Shower peaks in early a.m.
12-18 Friday: Mercury at greatest elongation.
12-19 Saturday: Dark Sky Night will be held at Shooting Range Park. Gran Quivira will be available for those who wish to make the trip.
12-20 Sunday: New moon.
12-22 Tuesday: Ursid Meteor Shower.
12-27 Sunday: First quarter moon.

POTLUCK DINNER:
This month's meeting will not really be a meeting at all. There will be no guest speaker; however, everyone will be a guest for the Albuquerque Astronomical Society potluck get-together at the home of Bruce Levin, 14328 Mocho NE (see map). You can call Bruce to find out what type of dish to bring (meat, vegetable, dessert, etc.), or just surprise everyone with your gastronomical creation.

The dinner will start at 6 p.m. on Saturday, December 12th, and last until...? This will be a great time for the membership to meet on a social level.
UPCOMING ELECTIONS:
The new year is rapidly approaching! The election of the new society officers will be held at the January meeting. Although some members have expressed an interest in serving as officers, nominations will be taken from the floor.

LAST MONTH’S MEETING:
The November meeting was held at 7:30 p.m. on Saturday, November 7th. The guest speaker was Dr. Neb Duric, who gave a very informative talk on "The Origin of Cosmic Rays." Dr. Duric's talk was very interesting and greatly appreciated by the members and guests who attended the meeting.

Also at the meeting, George Pellegrino, the Vice-President, proposed a motion to amend the By-Laws and remove any age restrictions regarding membership in our Society.

THE RESULTS OF THE "MERGER VOTE":
In a unanimous vote favoring the merger, the Albuquerque Astronomical Society and the Albuquerque Junior Astronomers officially became one organization.

From this day forward, Article 1, Section 3, of the By-Laws has been amended to remove the minimum age restriction which required members of the Society to be at least 14 years old. This amendment clears the way to expand family participation at meetings and star parties. This summer, family picnics and other special events will be held.

The officers of both organizations wish to thank everyone for their overwhelming support.

NON-PROFIT STATUS AND INCORPORATION OF OUR SOCIETY:
Presently, the wording in the existing Constitution and By-Laws of the Albuquerque Astronomers/Albuquerque Astronomical Society does not meet all the criteria for a non-profit organization. Even though our society, in action, does satisfy the stated conditions in the tax law, this needs to be reflected in our documents.

Over the last few months, Michael Fisk, one of our younger members, researched the tax laws and drafted up a new set of By-Laws and Constitution for the Albuquerque Astronomical Society. Mike and a group of us reviewed and edited these documents together and, on a later occasion, with corporation lawyers. These By-Laws and Constitution are presently undergoing final revisions.

After final review, these documents will be placed before the membership for acceptance.

FRIDAY EVENING OPEN HOUSES AT THE UNM OBSERVATORY:
Arrangements are being made with our Society to provide assistance in running the University observatory open houses for the public. Over a dozen of our members have volunteered to help with these sessions on a rotating basis. These members will receive personal invitations from Dr. Del Campbell to participate in an organizational and scheduling meeting for these observing sessions. Dr. Campbell is a professor and professional astronomer in the University’s Physics and Astronomy Department and is also responsible for the operation of the University Campus Observatory.

This opportunity still exists for those people who enjoy interfacing with people of all ages.

THE FATE OF THE "SIDEREAL TIMES":
A few months ago, I asked the membership at large for some help in the upkeep and maintenance of my copy machine. The machine is valued at or near $2,000. I use it to make about 10 to 30 copies per month for my personal use. The Society has the use of it for free, and for the newsletter alone the number of copies usually amounts to 600 to 800 copies per month.

Last month, to produce the newsletter and the membership packets required 1,900 copies and a total of 12 copies for my personal use. Since the printing of the newsletter and membership packets, I have printed at least 100 or more membership applications and information sheets for the purpose of encouraging prospective members to join our ranks. The campaign was successful, and we gained at least six new members.

The reason I am telling you all this is because as of this printing I have received NO offers of assistance. I had hoped that somewhere out there someone knew someone with the expertise to do the job. If that contact can be made, it would save us a good chunk of money. Money that could be put to better use elsewhere.

The efforts of Cal Cuellar to use a spirit printer at no cost to the Society saved us a great deal of money. The quality of the finished product was rejected by the members, but his efforts were certainly appreciated. The use of my copy machine is also at no cost and has saved us a lot of money each month. It would indeed be an accomplishment if we could keep the gains that were made and continue to enjoy the future savings. If you can help, contact me at 821-8516.

Thank you,
George S. Pellegrino, Vice-President

THE PUZZLING UNIVERSE:
There is still time to order the ideal holiday gift for anyone with even a remote curiosity in the mysteries of the night sky. This 1,000 piece puzzle entitled, "The Illustrated Milky Way: Sagittarius and Scorpius," is offered by the manufacturer for a total of $16. Our price is only $12.50.

If you want one, call one of the officers as soon as possible to reserve one. All orders are COD, and arrangements for delivery can be made at the time the order is placed by phone.

LOST AND FOUND:
Lost: At the October star party held at Shooting Range, I lost two filters, one polarizer and one blue. They are engraved with a number and the color. Call George Pellegrino (821-8516).

Found: One eye piece, I 1/4". If you lost one, call George Pellegrino (821-8516) and describe it.
EL CIELO ESTRELLADO
(The Starry Sky)
By Wayne Trust

Comet Meets Variable in Cetus

For the most part, we in New Mexico experience dry weather in the fall and early winter. So, it is perhaps a little ironic that the evening sky at this time of year is filled with all sorts of "watery" constellations including a sea goat (Capricornus), fish (Pisces and Piscis Austrinus), a water carrier (Aquarius), a sea monster (Cetus) and a river (Eridanus). But, if it's clear and dry, who's going to complain? It just provides more opportunities to stand under a starry sky and enjoy your favorite hobby. The next few months offer some interesting astronomical "action" in one of the aforementioned constellations—Cetus.

Cetus is a large but relatively dim constellation. This year, however, it is easy to locate the principal stars of Cetus due to the presence of brilliant Jupiter which now rides above the back of the creature much like a performer at Sea World. While Cetus contains interesting objects for all apertures, we focus on the variable star Mira and a December interloper, periodic Comet Borrelly.

MIRA

This prototype long-period variable star fluctuates between approximately ninth magnitude and third magnitude (K250 in apparent brightness) over a period of 11 months or so. The last maximum occurred near the first of February; hence, we can expect the star to rise from celestial obscurity and become a conspicuous naked-eye object around the first of the new year. On rare occasions, Mira outshines itself and reaches second magnitude and, in 1779, Mira rose to almost first magnitude and became the near equal of Aldebaran. So, one can't be entirely sure what behavior a new cycle will bring. As of Nov. 10.2, the red giant was still sputtering at magnitude 9. At maximum brightness, the star is easily recognized by its reddish hue. 2000.0 Coordinates: (R.A. 2 hrs. 19.3', Dec. -20° 58.6')

P/BORRELLY (1987p)

This is Comet Borrelly's 12th return since its discovery in 1905. Last time around (1980-81), the comet was substantially brighter than many people expected. Based on past performance, predictions are that Comet Borrelly will approach magnitude 7 near the time of perihelion (Dec. 18); however, it is always best to remember P/Halley's famous adage: "If you must bet, bet on a horse, not on a comet." In mid-December, P/Borrelly will pass within a few degrees of Mira (see accompanying finder chart). This "conjunction" could offer an interesting wide-field photo opportunity if the comet achieves predicted brightness and the old red giant auras sufficiently from its long slumber.

Other Objects of Interest:
Alpha (α) Ceti—a mag. 2.5 red giant star with a wide mag. 5.6 blue companion; nice color contrast in small binoculars. 2000.0 Coordinates: (3 hrs. 2.3', +40° 5.4')

Gamma (γ) Ceti—a close double star that is harder to split than one might expect due to the considerable difference in brightness (mags. 3.5 and 7). 2000.0 Coordinates: (2 hrs. 43.3', +53° 14')

Tau (τ) Ceti—a yellow main sequence star very much like our own (90% of the diameter, 45% of the luminosity of the Sun). At a distance of 11.7 light years, magnitude 3.5 Tau Ceti looks average enough. This object serves as a nice benchmark for appreciating the wide range of luminosities among the stars. Compare the F5 star Procyon which at nearly the same distance shines about 200 times brighter. The A1 main sequence star Sirius at Tau Ceti's distance would still nose out Canopus as the brightest star in the sky. And mighty Deneb at mag. 9.7 would approach the brightness of the full moon!! On the other hand, the white dwarf companion to Procyon is about 30000 fainter than Tau Ceti. 2000.0 Coordinates: (1 hr. 44', -15° 56.3')

UV Ceti—well known flare star (1 hr. 38.8', -17° 58')
26 Ceti—easy double star, mags. 6.5 and 9 (1 hr. 3.8', +10° 22') Near lies the faint dwarf irregular galaxy IC1461. This object is a member of the Local Group and resides at about the same distance as M31. Very low surface brightness object.
37 Ceti—attractive wide double, mags. 5 and 7 (1 hr. 14.4', -7° 55.4')
66 Ceti—easy double, mags. 6 and 7.5 (2 hrs 12.8', -2° 23.6')
$274$—nice, fairly easy matched pair, mags 7 and 7.5 (2 hrs 31.5', +10° 4')
$16$—very easy mag. 7 matched pair (3 hrs. 9.1', +7° 28')
$166$—a close mag. 7 matched pair (1 hr. 55.8', +10° 51')

NGC 246—an interesting planetary nebula with lots of structure across the disk (0 hr. 47.2', -11° 53') Just north of NGC 246 lies the faint spiral galaxy NGC255.

M77—the only Messier object in Cetus; a bright compact galaxy. M77 is classified as a Seyfert galaxy, exhibiting a very small bright nucleus with characteristic intense and variable ultraviolet emission. (2 hr. 42.7', -3° 0.1')
December Evening Skies

This chart is drawn for Latitude 40° north, but should be useful to stargazers throughout the continental United States. It represents the sky at the following local standard times:

- Late November: 10 p.m.
- Early December: 9 p.m.
- Late December: 8 p.m.
- Early January: 7 p.m.
- Late January: 6 p.m.

This map is applicable one hour either side of the above times. More detailed charts appear monthly in the magazines *Astronomy* and *Sky & Telescope*.

The planet Jupiter is plotted for mid-December 1987. At chart time 12 objects of first magnitude or brighter are visible. In order of brightness they are: Jupiter, Sirius, Vega, Capella, Rigel, Procyon, Betelgeuse, Altair, Aldebaran, Pollux, Fomalhaut, and Deneb. In addition to stars, other objects that should be visible to the unaided eye are labeled on the map. The double star (Dbl) at the bend of the handle of the Big Dipper should be detectable above the treetops in the north. The famous Orion Nebula, a cloud of gas and dust out of which stars are forming, is marked (Nb) in that constellation. The position of an external star system, called the Andromeda Galaxy after the constellation in which it appears, is also indicated (Glx). Try to observe these objects with unaided eye and binoculars.

—D. David Batch