

REFLECTIONS



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September , 1991

This image of Stephan's Quintet in Persues was taken by Jack Newton with a 25" f5 telescope and a SBI CCD camera.

R. Tanner, ed.

University Lowbrow Astronomers

The University Lowbrow Astronomers is a club of astronomy enthusiasts which usually meets in the historic "Detroit Observatory" on the corner of Observatory and Ann Streets in Ann Arbor. The meetings start at 7:30 on the third Friday of each month and are open to the public. For further information, call Fred Schebor at 426-2363.

This Month:

September 20 - Meeting, Detroit Observatory in Ann Arbor. The 1991 version of the (in)famous "**Artsy and Meaningless**" **Slide Show** by Fred Schebor plus a **Demonstration of Foucault Testing** by Doug Nelle.

Next Month:

October 2 - Computer Subgroup Meeting at Doug Nelle's house. The topic for this meeting will be **Astronomical Database Programs**. Note that this date is a **Wednesday**.

October 5 - Open House, Peach Mountain Observatory, bring scopes.

October 12 - Open House, Peach Mountain Observatory, bring scopes.

October 18 - Meeting, Detroit Observatory in Ann Arbor. A slide show on the **1991 Astrofest Star Party** will be presented by club members that attended. Also, there will be a demonstration

of some of the interesting **Astronomy Software** by the computer subgroup.

24" RENOVATION IS MAKING PROGRESS!!!!

The 24" telescope is going together due to the efforts of several club members especially Stuart Cohen. Fritz Bausch, the instrument maker in charge of maintaining the University's telescopes, decided that the weldment supporting the south polar bearing doesn't need welding, annealing, or machining. Fritz felt that the adjustment capability in the bearing mount would be sufficient to align the bearing and that further distortion in the weldment would not occur. This removes the major holdup to finishing the renovation of the 24". The various parts of the telescope are now being painted and readied for reassembly. Further info in on the next page under the title - 24" Renovation Moving Toward Completion.

Club News

24" Renovation Moving Toward Completion

The club 24" telescope at Peach Mountain has been under renovation for almost one year. The renovation has been extensive; the mirrors have been recoated, the telescope disassembled and all the parts cleaned and primed for repainting to prevent any further rust, a completely new drive system designed and built. The original bearings had deteriorated and caused the scope to be very hard to move, new ones were donated by the University.

The biggest holdup to reassembling the telescope has been the repair of the south bearing support weldment. This weldment filled up with water which leaked from the roof, then the water froze and pushed out one of the sides of the weldment, (which was made of 1/2" thick steel). The entire weldment is distorted to some degree. The original plan was to weld in some braces for the distorted side, anneal the weldment to remove the residual stresses caused by the ice, and remachine the mounting surfaces. Fritz Bausch (the head instrument maker in charge of maintaining the University's telescopes) inspected the weldment and decided it was usable as is. This saved the club several hundred dollars in welding and annealing costs and set the finishing steps of the telescope in motion. D.C. Moons, Fritz and George Latimer have **installed the weldment on the pier** and work is progressing on the south polar bearing mount. There is a **work session scheduled for September 19th starting at about 4:30 to reassemble the telescope** and anyone who can help out is invited.

Stuart Cohen reported that **the pier, the RA gear, the weldment, the special Dec counterweights, and , the south polar bearing block are painted and ready for reassembly**. The major pieces left to be painted are the "T", the cage, the counter weights, and the RA and DEC setting circles. If there are any members with pieces of the telescope they have been refinishing, they should get them finished and ready for assembly as they will probably be needed soon.

The roof was recoated with a shiny asphalt compound during a work session in the last week of August. This will reduce the heat gain during the

day and the leaks during rain. The same work session got a lot of sanding and cleanup done to prepare for the painting and assembly.

Post Office to Print Space Exploration Stamps

Dick Sider has reported that the post office will print 10 space exploration stamps to be available October 1. There will be one for each planet and one for the moon. Each stamp will have an image of the planet and the spacecraft that explored it. Sounds like they would be interesting to collect.

John Dobson is in Town

Dick Sider also reported that John Dobson is teaching telescope making classes at the monastery over on the west side of Michigan. He will be there until September 22. His classes take six days and teach you to grind a mirror and make the other parts for a 6" Dobson reflector. You actually build the entire telescope and have a usable scope when you are done.

He also will be holding a star party on the September 13-15 weekend for all children under the age of 80. He will be available for star parties any clear night until he leaves. He has his 10" and 22" telescopes for use at the star parties. Dick Sider can probably put you in touch with someone who has the telephone number of the monastery.

Magazine Prices Increase

Dick Sider reported that three of the Astronomy Magazines have increased in price. Astronomy is now \$16 per year, Deep Sky is \$10 per year, and Telescope Making is \$10 per year. If you want a subscription through the club, see Dick Sider at the meeting or send him the money at the address shown on the last page

Need Lowbrows to Help at Special Open House

Fred Schebor has volunteered to give a special Open House for a class in the Pinckney Community Education program on Friday, October 4th. The cloud date is October 10, a Thursday. Fred would appreciate any club members who could bring out their scopes for the class to look through.

Subgroup Reports

Computers in Astronomy Subgroup

The seventh meeting of the Computers in Astronomy Subgroup was held at my (Roger Tanner) house. Fred Schebor brought the club library of public domain and shareware programs to the meeting for people to copy. At the meeting I demonstrated a Macintosh Program called MacAstro and a Atari ST program called ComTrak - ST. There were about 8 members present.

MacAstro

MacAstro is a Macintosh program which displays several types of astronomical information in several windows. One window is an all sky star map which will let the user zoom into the map 2-8 times with a click of the mouse. The program uses dialog boxes to input the users position on the planet and time and date. The program is a little slow drawing the sky. A very nice feature of the program is the planet and moon windows. Additional windows can be opened which will show a telescopic view of the planets and in their correct phase and orientation. For Jupiter and Saturn the moons are shown in their position and identified. A clock window can be opened showing universal time. A small window shows the RA and DEC when the mouse cursor is on the all sky display, and optionally, it can show altitude and azimuth.

The program is shareware and the author asks for a \$20 fee to register. Fred has a copy of the program in the Mac part of the club library. I used a friends Macintosh emulator (Spectre GCR) on my Atari ST to demo the program.

ComTrak - ST

ComTrak - ST is a Atari ST program which can plot comet orbit on several types of sky maps. The program comes with orbital elements for about a hundred comets. You select the time period and number of time steps for the orbit calculations. The program shows stars down to 7.5 magnitude and can plot an all sky map on a Mercator projection. The program can plot a zoom map for a smaller section of the sky. The program will also plot several quantities versus time, such as the distance

of the comet from the earth or the sun and the projected magnitude based on the typical comet light curve. The program can also plot the acceleration over the time period selected which is useful for identifying the periods where high accelerations (which means high forces and stresses) may break up the comet.

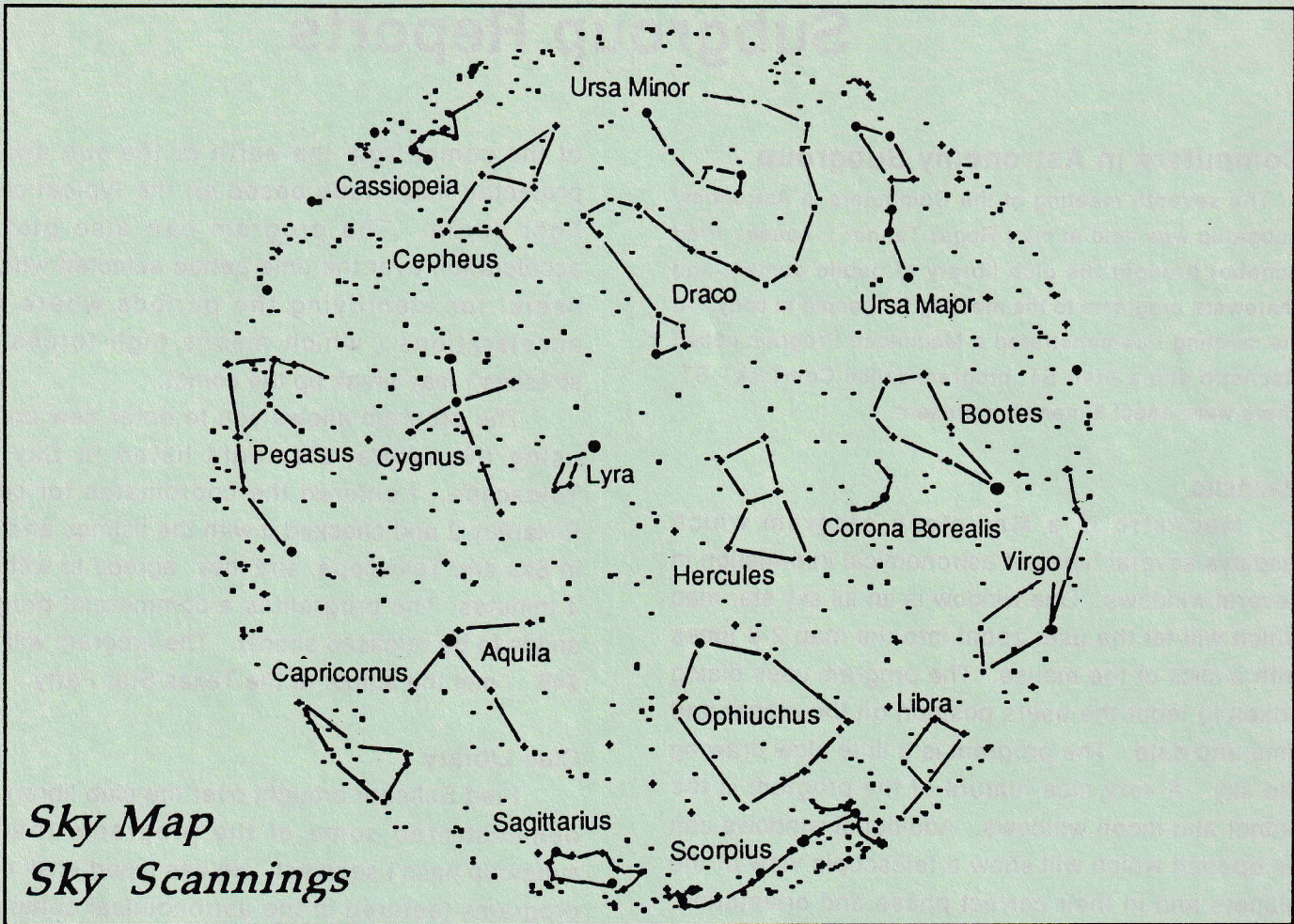
The program allows you to enter new comets using the orbital elements listed in Sky and Telescope. I entered the coordinates for comet P/Hartley 2 and checked it with the listings and map in Sky and Telescope, and they agreed to within 3-4 minutes. The program is a commercial program and is to be released shortly. The program will cost \$45. I met the author at the Texas Star Party.

Club Library

Fred Schebor brought over the club library and demonstrated some of the programs that the subgroup hasn't seen yet. He has typed in all of the programs featured in the astronomical computing section in Sky and Telescope. Fred demonstrated one that generated 3-D maps of comet orbits. The program plots out two curved paths on your printer and you cut them out and put them together to form a 3-D display of the orbit. Another program simulates gravity waves and how they can form various types of spiral galaxies. Several people copied some of the programs in the library.

Next Meeting

The next meeting will be on **October 2**, a **Wednesday**, at **Doug Nelle's house at 7:30**. The topic for the meeting will be **Astronomical Databases** and if anyone has any new database programs they should bring them to the meeting. Doug may have received his update on his Deep Space 3D by then and be able to demo it for us. The update adds support for laser printers (which gives high resolution star maps), and adds the thousands of deep sky objects in the Saguaro database. He has also purchased more star libraries which gives stars down to 9th magnitude.



Sky Map
Sky Scannings

Sunrise and Sunset data

| <u>Date</u> | <u>Sunrise</u> | <u>Sunset</u> |
|-------------|----------------|---------------|
| 07-01 | 6:02 AM | 9:17 PM |
| 07-15 | 6:12 AM | 9:11 PM |
| 07-30 | 6:26 AM | 8:58 PM |
| 08-01 | 6:28 AM | 8:56 PM |
| 08-15 | 6:42 AM | 8:37 PM |
| 08-30 | 6:58 AM | 8:13 PM |
| 09-01 | 7:01 AM | 8:10 PM |
| 09-15 | 7:16 AM | 7:46 PM |
| 09-30 | 7:32 AM | 7:19 PM |

Map is accurate for:
Midnight on July 15
10:00 p.m. on August 15
8:00 p.m. on September 15

Moon data

| <u>Date</u> | <u>Phase</u> | <u>Rise</u> | <u>Set</u> |
|-------------|--------------|-------------|---------------|
| 07-05 | 3rd Qtr. | 12:50 AM | 2:42 PM |
| 07-11 | New | 5:46 AM | 9:18 PM |
| 07-18 | 1st Qtr. | 2:23 PM | 12:11 AM (19) |
| 07-26 | Full | 8:58 PM | 6:09 AM (27) |
| 08-03 | 3rd Qtr. | 11:18 PM | 2:52 PM (04) |
| 08-10 | New | 7:15 AM | 8:54 PM |
| 08-17 | 1st Qtr. | 3:22 PM | 12:00 AM (18) |
| 08-25 | Full | 8:15 PM | 7:09 AM (26) |
| 09-01 | 3rd Qtr. | 10:52 PM | 3:02 PM |
| 09-08 | New | 7:24 AM | 7:45 PM |
| 09-15 | 1st Qtr. | 3:02 PM | 11:54 PM |
| 09-23 | Full | 7:04 PM | 7:09 AM (24) |

Visible planet rise and set data
for mid-month, July, August, and September, 1991

| <u>Date</u> | <u>Planet</u> | <u>Rise</u> | <u>Set</u> |
|-------------|---------------|-------------|--------------|
| 07-15 | Mercury | 8:20 AM | 10:29 PM |
| | Venus | 9:42 AM | 10:57 PM |
| | Mars | 9:24 AM | 11:02 PM |
| | Jupiter | 8:20 AM | 10:28 PM |
| | Saturn | 9:42 PM | 7:19 AM (16) |
| 08-15 | Mercury | 7:51 AM | 8:39 PM |
| | Venus | 7:58 AM | 8:26 PM |
| | Mars | 9:03 AM | 9:44 PM |
| | Jupiter | 6:52 AM | 8:44 PM |
| | Saturn | 7:33 PM | 5:05 AM (16) |
| 09-15 | Mercury | 5:56 AM | 7:19 PM |
| | Venus | 4:52 AM | 5:58 PM |
| | Mars | 8:44 AM | 8:24 PM |
| | Jupiter | 5:25 AM | 6:59 PM |
| | Saturn | 5:26 PM | 2:55 AM (16) |

Here is a list of the Telescopes and Misc. equipment that our members have. Some members have been asking for such a list to help them in contacting other members that already have a telescope or other piece of equipment that they are interested in. This may be especially useful for new members looking for their first telescope.

This list is not 100% complete in that I have not been able to contact or get a response from a few members. Others may not have sent in their dues yet and have thus been dropped from the active list. And I'm sure a lot of people have not disclosed all of their fancy equipment/accessories/etc. that they have. This is a start. If we find this type of information useful and would like to enhance this list by adding more detail to it, such as eyepieces size & make, filters, photography equipment, etc.... Please let me (Ron Avers) know. I can easily add information to our membership file and create listings to disseminate the compiled information. This additional info. could be gathered next January when we call all the members for the annual officer nominations and info. update survey. I believe it was decided at our May meeting this year when we reviewed the duties of the new officer positions (and took on a little more "structure"), that we accepted the idea of collecting this information and making these yearly surveys. We will try out this new procedure again this year and see what kind of feedback we get.

I think you should know that this information is only being distributed to members in our Club and is NOT included in all the newsletters that get sent to the Newspapers, University Departments, Planetariums, and other local Astronomy Clubs.

I apologise for taking so long to complete the compilation of this first list and also if I've made some mistakes on your info. If you have anything you would like to correct, add, change, delete; Please call me at 426-0375 or see me at the meetings. These lists will be at the meetings for your inspection. There will also be some "New Membership" forms that we can use for you to write down any corrections to this list or your address. The forms will contain all the fields of information that the Club wants to keep track of in its membership database.

Ron Avers 426-0375

Places:

The *Detroit Observatory* is at the corner of Observatory and Ann Streets in Ann Arbor, across from the old U of M Main Hospital. The Detroit Observatory is an Historic Building which houses a 19th century 12-inch refractor and a 6-inch transit instrument.

The *Peach Mountain Observatory* is the home of the U of M radio telescope and the 24-inch McMath telescope used by the Lowbrows. This observatory is located northwest of Dexter, off North Territorial Road, West of Dexter-Pinckney Road. The entrance is just west of Sportsman's party store and is marked by a small maize and blue university sign. Go through the gate and follow the gravel road. Once parked at the observatory parking lot, follow the path away from the radio telescope and around the fenced in compound to the telescope.

Times:

The monthly meetings are held on the 3rd Friday of each month at 7:30 pm. Meetings are either at the "Detroit Observatory" in Ann Arbor or at the Peach Mountain Observatory. Meetings held at Peach Mountain are cancelled if the sky is not clear at sunset.

Public Star parties (Open Houses) are held on the Saturdays before and after the new moon at the Peach Mountain Observatory. Star parties are cancelled if the sky is not clear at sunset. Many members will bring their own telescopes. Your scope is welcome. Wear warm clothes for the season and bring insect repellent. The next scheduled Open Houses are listed on the first page.

Dues:

Membership in the Lowbrow Astronomy Club is \$20 per year for individuals or families ,and \$12 per year for students. Among other things, this entitles you to use the club telescope after some training.

Magazines:

The Lowbrow Astronomy Club offers discount subscriptions to popular astronomy magazines:

Sky and Telescope : \$18/yr.

Astronomy : \$16/yr., 12 issues.

Magazines: (cont)

Deep Sky : \$10/yr., 4 issues.

Odyssey : \$10/yr., 12 issues.

Telescope Making : \$10/yr., 4 issues.

All except Sky and Telescope require 5 club members to subscribe for the discounts. Contact Dick Sider (663-3968) for more information or write to him at the address below:

Dick Sider
902 Pauline Blvd.
Ann Arbor, Mich. 48103

Sky Scannings:

The *Sky Scannings* and *Sky Map* section in the issues of the *REFLECTIONS* are produced by Matt Linke of the U of M Exhibit Museum.

Newsletter Contributions:

Please send any information, short articles, or drawings to the address below. The closing date is 10 days before the meeting. Currently there are not many people contributing and we could use some fresh observations from the members.

University Lowbrow Astronomers Reflections
1770 Walnut Ridge Circle
Canton, Mich. 48187

Important Numbers:

President: Fred Schebor 426-2363

VicePres: Stuart Cohen 665-0131

Doug Nelle 996-8784

Paul Etzler 426-2244

Treasurer: Richard Sider 663-3968

Observatory: D.C. Moons 795-8159

Newsletter: Roger Tanner 981-0134

Membership: Ron Avers 426-0375

Peach Mountain Keyholders:

Tom Ryan 662-4188

Fred Schebor 426-2363

Doug Nelle 996-8784

| Name | Telescope & Misc. Equipment | Phone (E) |
|-------------------------------|---|--------------|
| Jim Abshier | Meade 8" SC; HM 6" Refr; HM 60mm f5 Refr | 313-348-1085 |
| Peter Alway | No | 677-4399 |
| Ron Avers | Meade 8" SC | 426-0375 |
| Ralph Blazier | | |
| Gordon Bredesen | | 665-8235 |
| Jack Brisbin | HM 8" Refl; 6" SC; 4" Refr | old-981-4096 |
| | 16" Mirror blank & other misc. goodies. | |
| Gregory & Christine Burnett.. | Astro Physics 6" f8; old Edmund 4.25 Newtonian Refl | 468-7953 |
| Brian Close | Celestron C8 | 747-8142 |
| Steve Coffman | No | 998-1915 |
| Stuart Cohen | Meade 6" Refl; HM 8" Refl on loan | 665-0131 |
| William Durrant | No | 994-8097 |
| Paul Etzler | 11x80 Binoculars | 426-2244 |
| Steven Flessa | 6" Newtonian; 4" SC | 313-553-8153 |
| Rob Fletcher | Meade 8" Newtonian | 313-344-8143 |
| Edward & Frona Folton | Celestron SPC 6 f5 Newtonian | 971-3470 |
| Mary Foster | Celestron 4.5 Newtonian | 517-522-8316 |
| D. Dean Freese | | 761-4630 |
| Bernie Friberg | Binoculars | 761-1875 |
| J. Edward Galipeau Jr. | | |
| Walter Gregg | No | 747-1525 |
| Gwenda G. & J. Thomas Guthrie | Odyssey 10"; old 3" Skyscope Refl | 482-3280 |
| Paul Hossler | Questar 3.5" | 662-1365 |
| Murphy M. Howland | No | 517-336-9037 |
| Robert R. Klose | 3" (80mm) Refr University Optics | 761-8488 |
| John Laffitte | HM 10" Dobsonian -CPU Controlled | 747-0035 |
| Rudi Lindner | Celestron 3" Refr | 663-2066 |
| Michael J. & Janet McEvoy ... | Celestron 8" | 313-538-9534 |
| D.C. Moons | 10x50 Binoculars | 313-373-1452 |
| Therese & Chris Murphy | No | 994-3462 |
| Stephen Musko | Meade DS 10" Refl; Meade 4.5" Refl | 426-4547 |
| Doug Nelle | HM 17.5" f4.5 Dobsonian | unl 996-8784 |
| | Lots of other misc. goodies. | |
| Schuyler Owens | Binoculars | 663-7062 |
| Karl A. Parsons | HM 6" Refl Newtonian; 2" Refr | 482-2834 |
| William Pelletier | | |
| Tom Ryan | 8" f4.5 refl; Lots of eyepieces: Pretoria, Brandon, Barlows: Klee, Dakin | 662-4188 |
| | Lots of mirrors ready for homemade assy. | |
| Philip Schafer | Coulter 10" Dobsonian | 662-5270 |
| Frederick S. Schebor | HM 10" Newtonian | 426-2363 |
| Doug Scobel | HM 13" f4.5 Dobsonian Coulter optics; HM 8" f8 Refl | 484-4044 |
| | Tube assy for 6" f8 and 6" f4.5 | |
| Richard Sider | Celestron 8"; Celestron C-90; HM 10" Dobsonian; 10x80 binoculars | 663-3968 |
| David Sun | No | 761-5027 |
| Roger D. Tanner | HM 17.5" Dobsonian; 6" f5 Newtonian; 80mm Refr | 981-0134 |
| | CCD Camera & imaging software | |
| James Wadsworth | Meade 10" SC | 313-529-2766 |
| David Wall | 10.1" Coulter f4.5 Refl Dobsonian Mount | 995-2528 |
| Stanley Watson | Celestron 8" | 662-4750 |
| Matt Whybra | | |
| Alan Wilde | No | 761-4475 |
| Yon Yakobian | Odyssey 13" Coulter Optics; 4" Maksuton Quantum - 8" on order | 313-878-2910 |

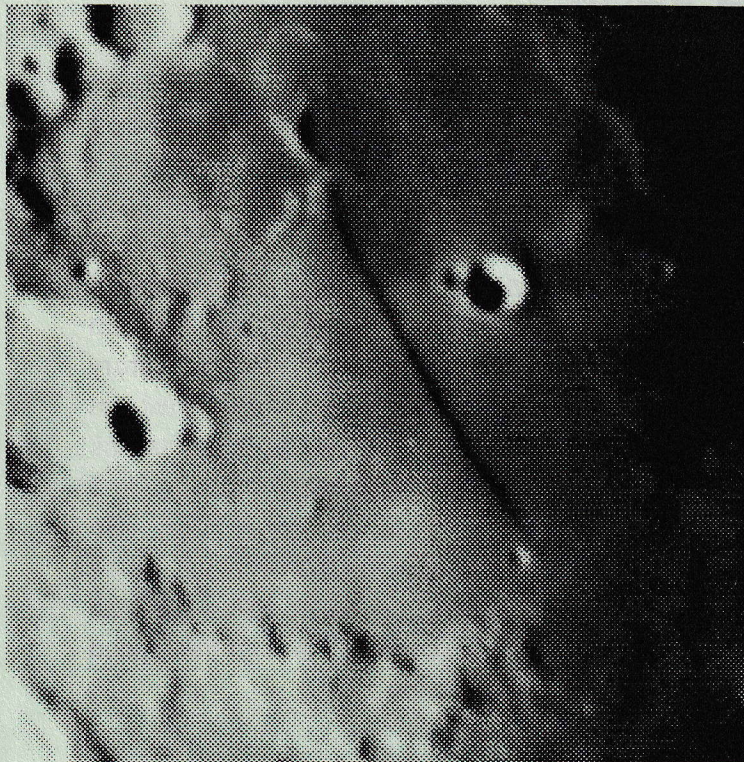
HM-Homemade
SC-Schmidt-Cassegrain

Refl-Reflector
Refr-Reflector

Monthly Meeting:

The Artsy -
Meaningless
Slide Show
- and -
A Demonstration of
Focult Testing of
Mirrors

At the
Detroit Observatory
in Ann Arbor



CCD image of the Straight Wall on the moon taken with a C-8 telescope and a LYNX camera. Image was processed slightly with the AstrolP software.

University Lowbrow Astronomers
9287 Chestnut Circle
Dexter, MI 48130