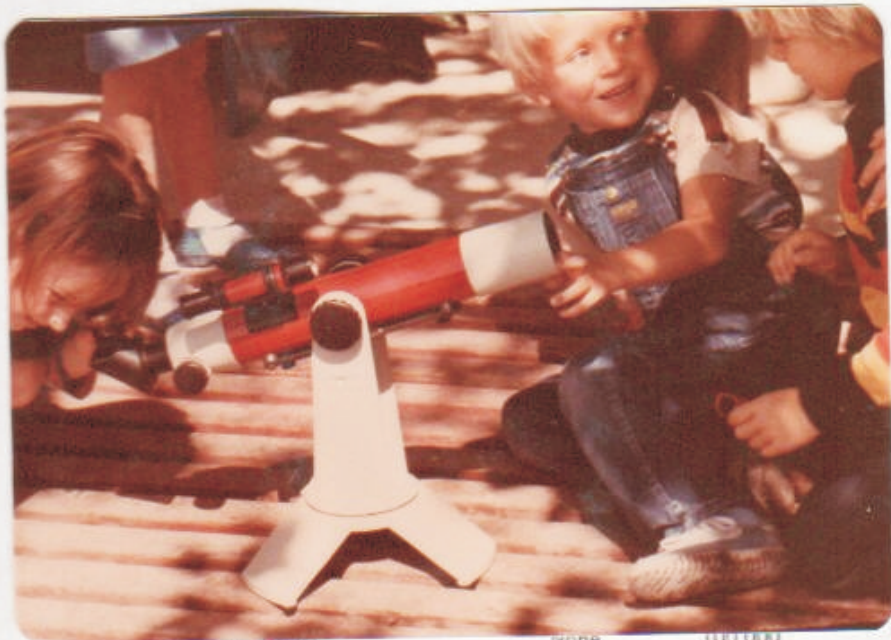


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See page 4;
 Session
 45765.

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JARNAC OBSERVATORY

OBSERVING LOG ELEVEN

begins Saturday Morning,
April 19, 1980.

ends Thursday night
Feb. 26/27, 1981.

APRIL 1980.

04 80

Jan. 1990 - cross out means gone from collection
where they are

Jarnac Observatory

Major Systems

List of Instruments

November 1979

- 1 ~~1~~ Discoverer: 2.5" reflector - Rik
- 2 Echo: converted 3.5" Skyscope
- 3 Echo II: modified 3.5" Skyscope - Vivian
- 4 Echo III: 4" f/12 reflector on Skyscope mounting - now on wood mt. Vivian
- 5 Albireo: 3" Tasco reflector, modified Jeanine
- 6 Syncom II: Homemade 3" reflector on "Kramer" style mounting - G. Schreier (gift)
- 7 Jarnac II: 4" Astroscan with finder & sold to Image Point
- 8 Mercury: 4" f/3.5 travelling reflector by Coulter given to Eucher 1/7/890
- 9 Andromeda-Caph: 4" homemade reflector with large finder Ferdie
- 10 ~~10~~ Apollo: 6" reflector by Cave given to Jim
- 11 9 ~~11~~ Antares: 6" RV-6 reflector by Criterion, somewhat modified
- 12 ~~12~~ Propus: 6" reflector with photo-equatorial mounting, by Star-Liner
- 13 ~~13~~ Equinox: 6" Maksutov reflector, f/23 given to Cunningham somebody Stella version
- 14 10 ~~14~~ Procyon: 6" Homemade reflector Marnana
- 15 2 ~~15~~ Minerva: 6" f/4 reflector by Optical Craftsmen; modified
- 16 ~~16~~ Minnowbrook: 6" reflector to sight Polaris; "Rosse" mounting - given to Rik
- 17 8 ~~17~~ Spica: 8" Dynascope by Criterion Haas
- 18 3 ~~18~~ Pegasus: 8" reflector by Cave; modified
- 19 4 ~~19~~ Jupiter: 16" reflector, not yet completed - Autumn 1981
- 20 ~~20~~ Miranda
- 21 5 ~~21~~ Mira II: "Copernicus" 3" Maksutov reflector given to Walter Carl 1974 - Ophelia
- 21 5 ~~21~~ Mira III: Celestron-90 Astro-telescope Ophelia
- 22 ~~22~~ Abacus: Tiny refractor for educational purpose given away
- 23 ~~23~~ Abacus II: Tiny Tasco refractor given away
- 24 ~~24~~ Abacus III: 40mm small refractor on antique camera tripod to Rik
- 25 ~~25~~ Ranger: small decorative but functional refractor, mounted on Echo-II
- 26 ~~26~~ Little Joe II: small refractor on mount once used for Little Joe used as lens Miranda
- 27 ~~27~~ Ceres: 10 x 70 binoculars sold
- 28 ~~28~~ Vesta: 8 x 24 Nikon binoculars given Lanny
- 29 ~~29~~ Skylab: 60mm Tasco refractor, on Apollo telescope mount given
- 30 10 ~~30~~ Surveyor II: 3" refractor by Polariscope Flandrau
- 31 ~~31~~ Cosmos II: 4" refractor by Meade on Miranda
- 32 ~~32~~ Cosmos III: Guidescope for Cosmos II given
- 33 6 ~~33~~ Mintaka: 4" refractor with built-in music system
- 34 ~~34~~ Polaris: Polar sighting telescope for Spica given to Dan Ward
- 35 ~~35~~ Polaris II: Polar sighting telescope for Cosmos II of gone
- 36 ~~36~~ Polaris III: Polar sighting telescope for Propus gone
- 37 ~~37~~ Bellatrix: small surveyscope, brass dated 1897 given to G. Dyck
- 38 ~~38~~ Betelgeuse: 3" Bardou refractor, circa 1890-1900 Ray?
- 39 ~~39~~ Jarnac: 3" Broadhurst-Clarkson refractor, no mount, circa 1900 sold?
- 40 ~~40~~ Rigel: 3" Alvan Clark refractor, model "T", circa 1900 given to
- 41 ~~41~~ Alphecca: small Ramsden refractor, circa 1800 sold to John Biese
- 42 ~~42~~ Nashira: Gregorian reflector, by George Adams, circa 1750-95 sold to Dan Ward
- 43 ~~43~~ Saturn: 12" Cassegrain reflector, by Tinsley, 1918 sold to Stricker
- 44 ~~44~~ Ganymede: 78mm Ad Astra III AR 3 element Maksutov-Cassegrain on Jupiter
- 45 ~~45~~ Amalthea: 4 1/2-inch reflector mounted on Sellers-type stand
- 46 ~~46~~ Voyager: 60mm refractor from Edmund, with 5x24mm finderscope given to Rik Michael later gift gift

- Ursa Major 2/ small refractor. gone
- Abacus IV - tiny "mm" model train refr. (no optics) still here but not a telescope!
- Beer Can Telescope. still here, not a telescope
- Canopus. New Zealand refr. sold to Ray Shubinsky
- Miaphacidus. ~1800 refr.
- Syncom III: ~5" refractor for comet hunting given to Cunningham
- Echo IV: 3" Edmund reflector on Skyscope Mt. given to Rik Hill
- Syncom IV: 4" Coulter reflector on Kramer mt. given to Gerald M-Scheven
- Cassiopeia: 4" reflector, walnut and maple tube. given to Dig Matty
- Dschubba: small spyglass; circa ?1900 gone
- Isis: Warner & Swasey Transit, circa 1912 sold to Stellarvision
- Perseus: 4" reflector for teaching sold to Stellarvision
- Maia 80mm RFT refractor for area searching given to Carl
- Virgo 4" RFT reflector for comet searching given ~~as is~~ to Steve Edler
- Wolf 359: 4" Ritchey-Chretien telescope given
- Europa: 3 1/16" finder for Jupiter. See 19+44 also. part of Miranda
- Umbra 3" F/56 Solar telescope given to Rik Hill
- Penumbra small refractor, a gift from Rik Hill + Dolores Hill given to ~~Leo~~
- Spacesight: Named by an 8-yr. old boy; model of 5 meter Palomar Telescope given to Dan Ward
- Ethelred small (test) "educational" refractor. given to Mage
- Regulus small refr, gift from Leo. given away
- Mira 4 finder to be used as "carry-with" telescope. ~~sent~~ to given away
- Io: Finder for Syncom II at one time, as of 5 Nov '81, at top of Jupiter.
- Callisto: ^{part of} ~~finder~~ Finder for Little Joe (1970?) and Procyon (1976?), as of 5 Nov '81, bottom of J.
- Eunomia 40mm reflector; gift of Rolf Meier & Eric Clinton; Jan 6 '82. given to Stellarvision
- Discoverer II From Riverside 1980. - given to away
- Phoebe. From Image Point, Dec. 11 1982. First light. Goddess of moon (and hunting). First Light Sold to Stellarvision
- Daphne Clyde's camera + mount, Dec. 1989.

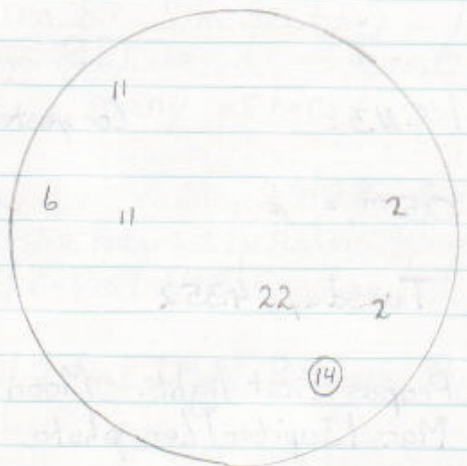
18/19 Friday 4348

58 M4. 18/19/0400-0500/9 1/2-10-F/JMB/Syncom-III, Maia/-/

CN-III: 0h50m E.-	CN-I: 40	6
	23	6
	23a	6 ✓
	<u>16</u>	<u>6</u>

19/20 Saturday 4349

1640-1700/6-F/JMB/Surveyor-II/-/ SS: 2.



G 7
 S 68
 R 138

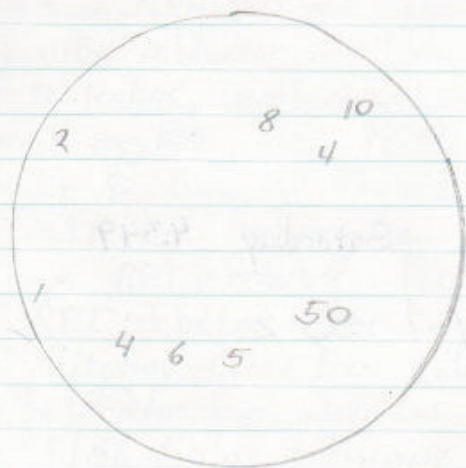
2. 2300-2330~/3-F/Schreiber House/-/Elaine and Mike/general.

20/21 Sunday 4350

~1900-~1915/int. | 2-3-F/JMF/-/-/ haze cond. several checks later as w

21/22 Monday 4351

725. ~1500-~1515/9-F/KPNO Visitor Centre/V.C. Telescope/Grandma Pearl,
Rik/SS-2.



G 9
S 90
R 180

312. 0430-0435/3-F/JMB/Syncom II/-/ CN3: (or yesterday morning?)

CN-III: 0h 05m.

22/23 Tuesday 4352

EM 2300-0030/7-F/JMF/Propus/-/ Propus first light. Moon photos 10mm eye
Mars/Jupiter/Leo photo. Olympus OM

23/24 - cloudy night.

24/25 Thursday 4354

SE 1940-2110int/3-F/JMB/Saturn/-/ Venus photo. first shot on new picture.
Moon.
Jupiter.
Mars.

25/26 Friday 4355

765. 1000-1030/8-F/Adventure School/Voyager/Carol Hill, nursery-age children/
Sun.

1115-1130/8-f/Candy Cane School/Voyager/Eindy and Nicole di Rico, nursery children/sun.

2000-2030/7-fm/7750 Oakwood/Equus/Billy/Moon less than 1/2° from Saturn. Venus.

2300-2315/7-fm/JMB/Syncom 3/→/Saturn also/Moon.

26/27 Saturday 4356

1000-1200/≈6f/El Con Mall/Pegasus, Betelgeuse, Mintaka, others/Rik + Dolores, Duane, others/Display. Look at sun for short time.

1900-2300/3-fm/Flandrau Planetarium/15 telescopes, including Pegasus (run by Jim Scotti) Mintaka, Betelgeuse (run by Dolores), Propus (run by Rik) and First Light for Perseus. (run by Ron Fernie.) / many others/ Star Party.

27/28. Sunday 4357

1900~1910^A/Tucson Restaurant/Grandma + family/Moon: Grandma recalls being here from new to full moon

2050-2110/6-fm/JMB/Carrara/-/Venus photo # 2 in raw film

2230-2325/7-fm/JMB/Perseus, Pegasus/-/Moon, Jupiter, M-13.

T CB 10.1-

R GB 6.0-

VSO-I = 2 var.

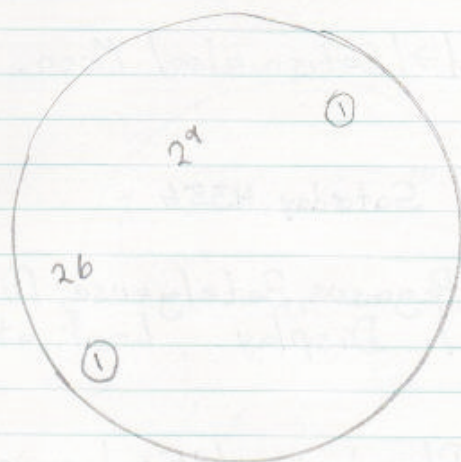
Test with Perseus pointed to a similarity with the drive for Pegasus. By moving Pegasus back towards object, drive then engages. Facing N, turn scope clockwise to object. Thus, Perseus has come to the aid of Pegasus!

28/29. Monday 4358.

2300~2310~12-f/JMF/-/-/general. view of Mars, Saturn + Regulus through clouds.

29/30. Tuesday 4359

855. 1410-1425/3-F/JMF;B/Voyager/-/SS2.



G	4
S	57
R	97

86E2. ^P ~1900-1910/3-F/chez di Rico/Cindy + Nicole/general.

87E3 ~1945-2130/3-F/Camp Cooper/Perseus/about 30 children.
 Jupiter, Moon, Venus. Fine performance by Perseus. Clock drive
 a good idea. Have children always stand at least 3 feet
 from telescope. Consider it a religious symbol to be
 approached with reverence.

30/31 Wednesday 4360

MAY.

1/2, Thursday. 4361

~0000-0015/4-f/Houston Airport Hilton/Mercury/Moon.

2/3. Friday 4362

~0000-0100-17-6-5-f/Houston Airport Inn/Mercury/John Griese/

Moon. Mars, Regulus, Jupiter in one field.

Nice colour in β Cyg.

VSO-I:

W Cyg. 6.4 -

/var.

3/4. Saturday, 4363

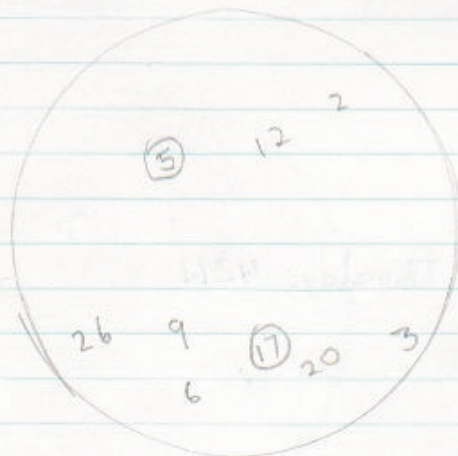
essentially a cloudy night.

4/5. Sunday 4364

2045-2105/3-f/JMB/Hercules/-/Venus picture.

~0000-~0015/9-f/JMB/Olympus/-/Mars+Jupiter picture. Very close to the

5/6 Monday. 4365



YPM

G 9
S 100
R 190

4592S. 1745-1800/3-F/JMB/Surveyor 2/-/SS2.

4593E2. 1930-2040/3-F/JMB/Maia, Syncom III/-/CN-III: 0h 05m
South site: CN-III: 0h 15m
Total 0h 20m.-

4594M3. 0145-0200/9-8-F/JMB/Maia 1-1

Mars-Jupiter picture, near horizon.

CN-V: Dome: checked to ~2.5.

CN-I: 40)
23) checked to 6.
23a)
16)

6/7 Tuesday. 4366

E. 2150-2240 / 3-f / Steward Observatory / 21" telescope /
 Greg | Very fine, steady look at Jupiter. Mars good too.

12. 2345---0000 / 8⁽³⁾-9-f / JMF / - / - / photo of Jupiter and Mars.

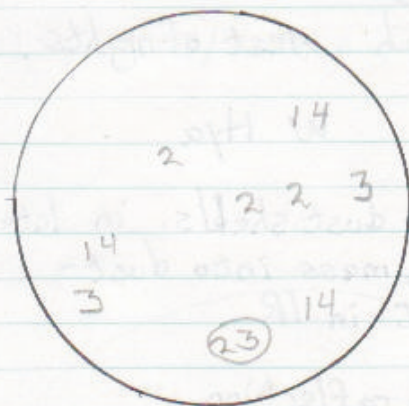
13. ~0100-~0120 / 3-f / JMF / Mercury / - / .

VSO-I: SS Cyg = (11.8 -

7/8 Wednesday 4367

1540-1640 / 10-f / KPNO / Visitor Telescope, Razdow image Hz / - / SS2.

"Flare patrol" -ve



G 9
 S 77
 R 167



SEM 2

1900-0200 / 10⁺-F / KPNO:

Burrell Schmidt family
Little Joe
Mercury

McMath Solar
Maia

Rik Hill, Dan Watson, Ed Sutton

1. Sunset ? small green flash.

2. CN3, 1^h 00^m W. Strong Wind. -

3. McMath, View of W Hya with West Aux. Telescope.

West scope as IR grating spectrometer

East designed for spectroheliograph

FTS run ~ 1/3 nights

main spectrograph ~ rest of nights. |

E'

W Hya

Resolved circumstellar dust shells. in late stars (proto planetary nebula)

Shedding mass into dust -

∴ bright in IR.

Main scope has 3 reflections

Aux scopes each have 5 reflections. (+10 more in interferometer)

4. Photo of ♂ + Jupiter, then trail.

5. General Observing.

6. Note high winds.

8/9 Thursday 4368

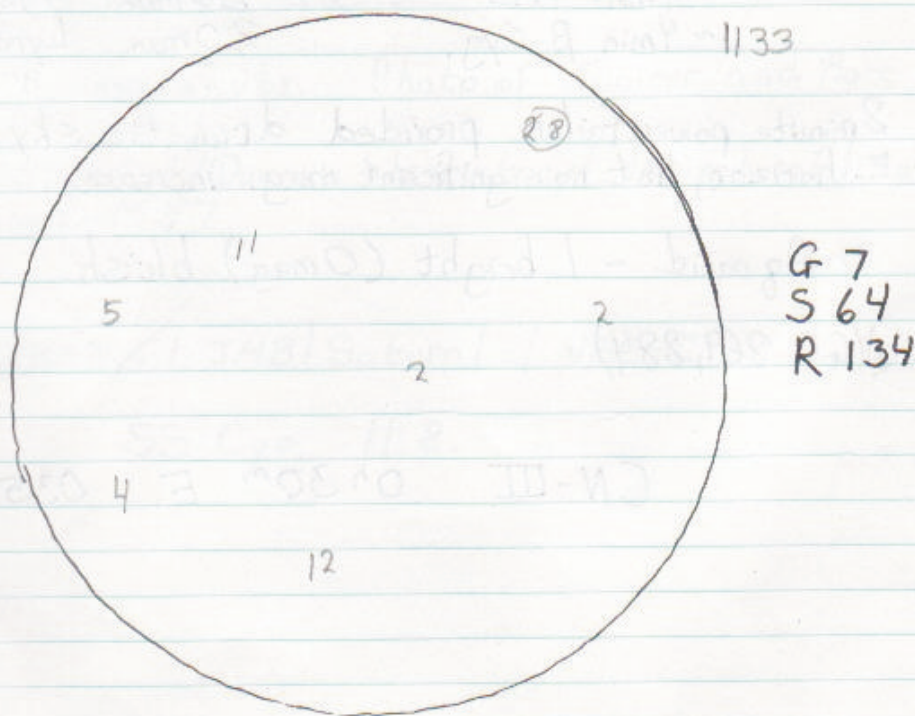
1420-1600/10-F/KPNO/McMath, Vacuum Telescopes / Bruce Gillespie, Wm. Livingston / Sun in Hx. Top of McMath.

M2/ 1900 - 0200 / 10-F - Very strong winds / Schmidt family, Little Joe, Maia, Mercury / Rik /

1. CN-3. 0h 30m. W.-
2. Accident to Little Joe, falling over in a 55mph gust.
3. informal viewing with Maia
4. Shutdown after 90" reports 75mph gusts.

9/10 Friday 4369.

1035-1140/10-F/KPNO/Visitor Telescope/-/SS2.



1930-0600/10-F/JMB/

Saturn, Spica, Echo, Cosmos II, Cosmos III, Mercury,
Jarnac II, Maia, Voyager I

Judy Wilson

John O'Farrell

Pat McCarthy

Stephen Sando

Venus, Saturn (faint ring), Mars, Jupiter.

M51, 97, 81, 82, 44.

M1, (M35) M13

M-8, M-11, M-17, M-27, M-57, M-4 (M-22) M31, 32.

Omega Centauri (some Coma-Virgo stuff)

BCyg, ϵ Lyr, ~~B~~^(Mizar) UMa

(-) = I didn't see
but others did.

Photos: with Cosmos

ASA-200

~4 min. M13

~4 min B Cyg.

20 min. M8 region } \approx 75mm lens
20 min. Lyra } on Cosmos
guiding on ϵ Lyr, M8.

8 minute power failure provided dramatic sky, especially
E. horizon, but no significant mag. increase.

η Aquarid. - 1 bright (0 mag) bluish.

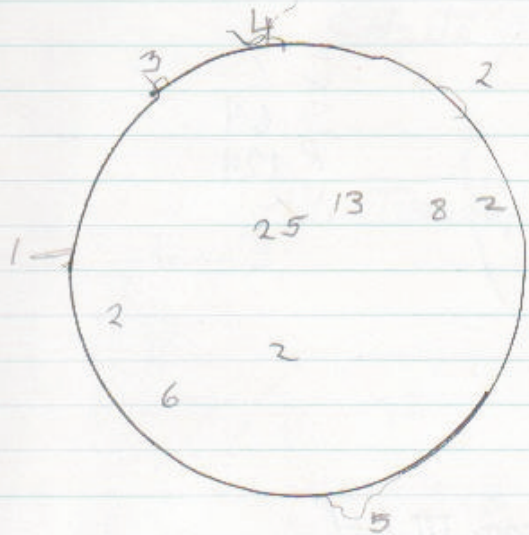
(NGC 869, 884)

CN-III 0^h 30^m E. 0350-0420. -

10/11, Saturday, 4370

1330-1430 /10-f/JMB/ Surveyor-II, Spica, Echo/ Judy, John, Pat and Stephen/

SS-2:



G 7
 S 58
 R 128
 Prom = 25

2 1900-2330/3-9 1/2/f/ Saguro West/ TAAA with several fine telescopes, including Howard's superb 6" f/5 reflector/ TAAA/ and Mira III - test of her new corrector.

General obs. Photo of Jupiter and Mars.

3. 0000-0105/3-2-f/ Duane's observatory/ 16-inch refl. at Cass/ Duane and Gary/ -M57.

4. 0150-0220/10-3-f/ JMB/ Saturn/ -/ VSO-I.

SS Cyg 11.8.-

3var.

11/12, Sunday. 4371.

4608S.

1810-1830/

8-F/JMB/

Surveyor III/-/

SS2.



0126 UT

G 6
S 64
R 124

Econd.

4609E2.

2000-2100/9-10-F/JMB/ Syncom III/-/

Venus photo.

M+J photo

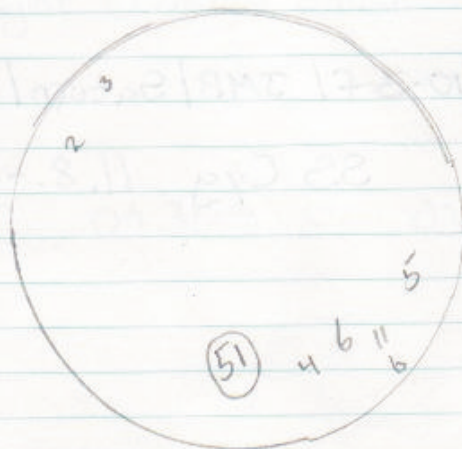
CN3

0h 20m W.-

12/13, Monday, 4372.

4610S.

1740-1810/10-F/JMB/ Surveyor/neighbors/ SS-2.



G 8
S 88
R 168

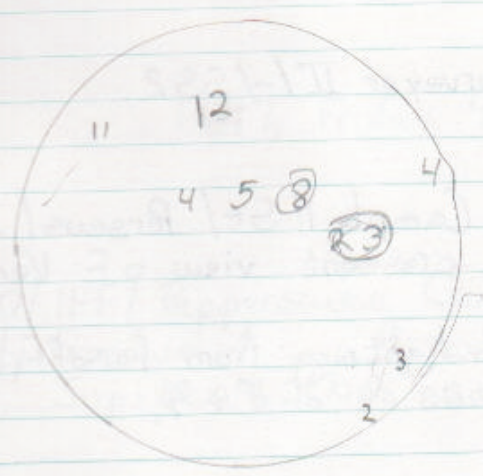
1945-2120/10-F/J-South Site/Syncom III/-/

CN-III 1h 10m. W. -

0345-0500/10-3-F/JMB/Syncom III/-/

CN-III: 0h 30m E. -

13/H, Tuesday. 4373



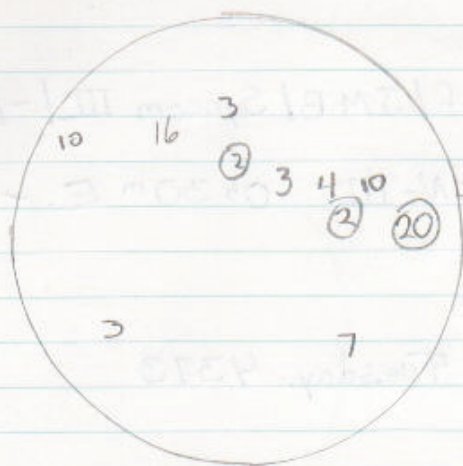
G 9
S 72
R 162

~1200--1230/10-F/JMB/Surveyor II/-/SS2.

1930-2200/10-3-F/Camp Lawson, Mt. Lemmon /
Perseus, Ganymede, 4" Tasco/ = 95 children, some staff/
Venus.

Jupiter as main object.
3 moons.
seen after Galileo story.
General discussion afterwards.
Excellent session.

14/15, Wednesday. 4374.



2215

C-E

G 11

S 80

R 190

1500-1530/3-f/JMB/ Surveyor II/-/SS2.

1900-1925/3-f/Cocoa's, Campbell St/ Perseus/ Jacquelyn + Will/
check of Perseus. Nice crescent view of Venus.

2010-2200/3-f/ Much lightning from far-off storm/ JMB/ Syncom 3,
Saturn/ Photo of Venus. of ♂ + ♀.

CN3 0440^m W. -

15/16, Thursday, 4375.

1930-2330/11-F/Camp Lawton, Mt. Lemmon / Perseus, Ganymede /
Jacquelyn, Ned Levine, the Sunrise Drive people

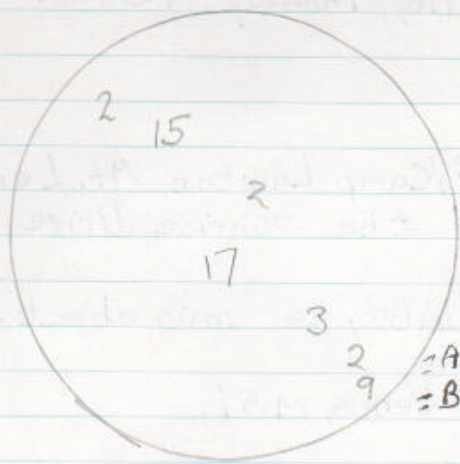
Jupiter, as main object.

Venus, M51.

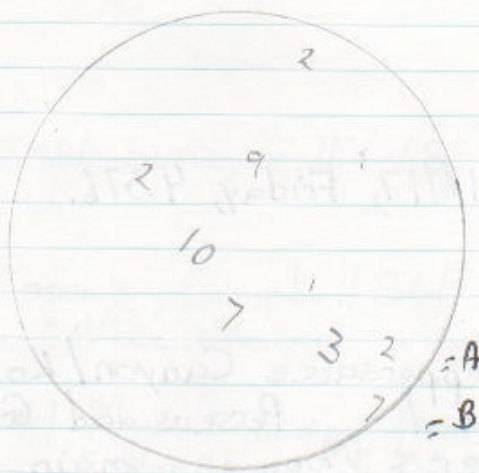
16/17, Friday, 4376.

2030-2230/11-F/Peppersauce Canyon/Lonny Baker and
others, Beverly Goodwin / Perseus and Ganymede / Jupiter. Moon.
Venus. M44. Jupiter + Moon as main objects.

17/18, Saturday, 4377.



Using eyepiece.
field too small.



Prime focus
and projection lens.

1530-1730 / 3-F / JMF / UMBRA first light / - / SS-2.

12. 2200-0115 / 10-F / JMF / UMBRA test, Amalthea / - /

CN-I:

40	}	6 at 0100.
23		
23 _a		
16		

0400-0430 / 9-F / JMB / Syncom 3 / - / \$ CN 3

0h 15m E.

18/19, Sunday, 4378.

05 80

1415-1430/10-F/JMB/ Preston + Gloria Stocum - Maia / Sun.
Gloria J. Stocum
~~Preston + Stocum.~~

1900-1920/15-F/JMB/ Rik and Dolores / Skylab, Saturn / Venus,
Moon?, KPNV.

2055-0000/3-10-F/JMF, JMB/ Umbra, Echo IV, Saturn / Moon, general
Viewing.

19/20, Monday, 4379.

1100-1300/3-F/JMB, F/ Penumbra construction, Syncom 3, Miaplacidus,
Canopus, Railway scope (Abacus IV), Echo 3 / photography of inst.

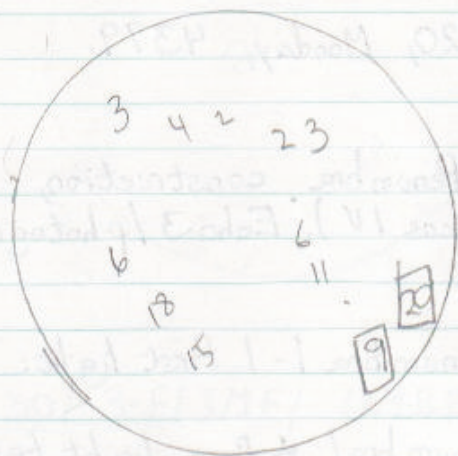
2030-2100/8-F/JMB/ Penumbra 1-1 First light: Moon, Jupiter.

2345-0000/3-F/JMB/ Penumbra 1-2 Boo light test - beautiful! / also, M57,
Vega. - in memory of Leslie C. Peltier.

20/21, Tuesday, 4380.

4629E. 2130-2205/7-F/FP, Steward/16", 21"/others, Greg R. / Mars w. 21".

21/22, 4381.



C=E.

Q

S

R

Two huge Spots.

4630S. 1745-1800/9-F/SMB/PENUMBRA!!-/SS2.

4631M2. 0115-01130/9-F/SMB/Penumbra/-/general. Mizar.

4632M3 0300-0430/10-F/SMB/Syncom 3, Penumbra/-/

CN-III: 1^h 00^m E. >

CN-I: 40	}	6.
23		
23a		
16		

22/23, 4382.

L05 80

2045-2145/9-F/Iamp Cooper/Celestron² + an astroscan/~50
kids, Jacquelyn/-/general.

0400-0420/10-F/JMB/Syncom 3/-/\$ CN-3.

CN3 0h 05m -

23/24, 4383.

~2100 - 2200~int/2-F/Camp Oakes, Calif/several inst/others/not much.
Cold-windy-snow.

24/25 4384.

0830-1700/3-F/Camp Oakes/many inst., Mintaka/others at
Riverside/Sun.

2130-2245/2-F/Oakes/Mintaka, some other telescopes/Cliff
Holmes/Moon.

25/26, 4385.

0700-1745 13-F/Camp Oakes/Mintaka, many others/
Riverside/Sun, Venus, Moon. First light on new RC. + on Discoverer-
II

2040-2330/7-Fml/Camp Oakes/Mintaka, many others/
(named so in Sept.)

26/27, 4386.

2030-2100/3-F/JMB/Camera/-/Venus pic 2045.

should be before 4640/0000^{noon}-0100pm/new RC, new Bob Miller telescope,
inopus, Dschubba, Penumbra/-/photos of telescopes.

27/28, 4387.

0045-0115/8-fm/JMB/ Penumbra, new telescope From
Bob Miller/-/

VSO-I:

SS Cyg 10.1 -

28/29, 4388.

2030-2210/8-fm/JMB/ UMBRA, PENUMBRA, SATURN, BETELGEUSE/
Stowells: Judy, Dan, Bonnie (-Moon with umbra it others; Planeta, Mizar,
M-13. Venus pic.

29/30, Thursday, 4389.

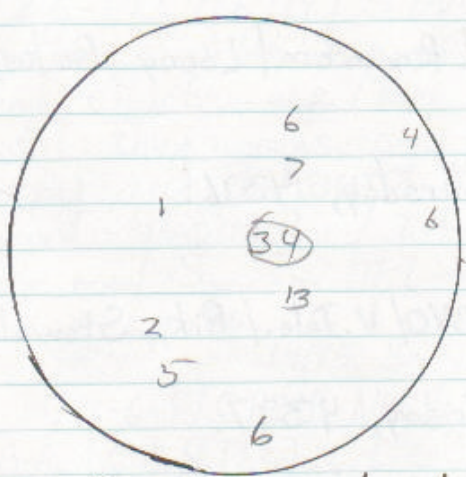
2030-2100/8-fm/JMB/ Penumbra, Hasselblad/-/ Final Venus picture.
Pics of Venus and Mercury.

30/31, Friday, 4390.

2100-2220/3-f/FP Obs/16"/ Jim Scotti and others/-M57.
Saturn, Jupiter, Mars.

31/32, Saturday, 4391.

465. 1230-1250/7-F/JMB/Penumbra/-1 Sun.



475. 1800-1930~/JMB/8-F/Penumbra/-/SS2.

482. ?2000-2100/9-Fm/JMB/Penumbra, Saturn/Roy, Judy + Danny Stowell/M13, Saturn, Mars, Jupiter.

June

1/2, Sunday, 4392.

2100-2230/7-F/Rik + Dolores's place/ 6" f/5/ Rik + Dolores/ Jupiter, etc.

2/3, Monday, 4393.

2000-2100/10-F/JMB/ Judy, Dan + Bonnie Stowell/ general observing with Saturn and Penumbra.

3/4, Tuesday, 4394.

2000-2135-10-F/JMB/ Saturn, Syncom^{IV}-1

CN 3 0h 45m -

(Nose-bleed night)

4/5, Wednesday, 4395.

~2130-2230/10-F/JMB/ Penumbra/ Lonny Baker, Gordon/ - General.

5/6, Thursday, 4396.

1605-1620/10-F/ KPNO/ V. Tele./ Rik, Stowells/ SS2.

6/7, Friday, 4397.

1900-2300/3-F/ Gilbert Ray Cgd/ TAAA inst/ TAAA/ general.
Canopus was there.

7/8, Sat. 4398.

New Mexico. Cloudy night.

8/9, Sunday, 4399.

New Mexico. Cloudy night

9/19, Monday, 4400.

2220-2235 - 16-f / Four Winds / Jarnac 2 / - / Mars, Jupiter, Saturn.
10/11, Tuesday, 4401.

2000-2200 / 3-f / 4 Winds to CARIH + return by Sloan's Lake / - / - /
general.

11/12, Wednesday, 4402.

2100 to 2330 / 7-f / Mark Heifner's house / 6" reflector, SYNCOM 4 /
Mark + his wife / Jupiter, M13, 51, etc.

12/13, Thursday, 4403.

-2300 - ~2315 / 8-f / 4 Winds / Jarnac 2 / - / 5 general.

13/14, Friday, 4404.

2100-2330 / 86-f / CARIH / SYNCOM-IV - official first light /
~10 children / Mars, Jupiter, Saturn, Arcturus, Mizar. 3 Children
wanted to find objects - esp. Mars - by themselves - and kept
on trying until they were successful.

Dwayne Terry and I found Mars.
should be before 4659E2. / 7-f / CARIH - Peshkin House (really
NAC: Ford House now) / Syncom IV / ~5 children / Sun. One wants
to start drawing spots.

14/15, Saturday, 4405

2100- 17-6-f / CARIH-NAC / Syncom IV /

Lee E. BARTLETT, Thea LOBER

Brian marty Gold Hamer

Dean Miller Goldhammer

Ramon Wilson Lorber

Dwayne Terry Lorber 1004 Found Jupiter!

Pete Z gustynski Lord

Darwin & Darwin Blue Lord

15/16, Sunday, 4406.

cloudy + rain.

16/17, Monday, 4407.

cloudy.

17/18, Tuesday, 4408.

1020-1040pm / 6-7-F / Motel-6, Davenport, Iowa / camera, Jarnac 2 /
 -1 5;
 * 3 6
 21

where 1 = Regulus 3 = Jupiter and 5
 2 = Grav. Moon 4 = Mars = Saturn.

photo (by me)! of planetary arrangement -
incorrectly advertised all day here as a "triple conjunction."

18/19, Wednesday, 4409.

0000-0020 / 9-3-F / ~6 mi N of Iona, Ontario Canada /
Camera, Jarnac II / planet-and-moon photo

VSO-I

WCyg 6.4-

SS Cyg (10.8-

Dome 2.5

0130-0200 / 6-5-F / Peter's place, London / Spartan, Voyager / Peter /
general

19/20, Thursday, 4410

cloudy.

20/21, Friday, 4411

2230-2315 / 7-F / 6" rr, UWO Observatory / Peter, Dianne + others / general

12 -2355-0100 / 6-F / ven of f and Peter's place / -Spartan / -others / general

0200-0400 / 9-F / near^r Andre's place / Syncom 4, Maria Ufer, Jarnac 2 /
Peter, Gerald, James Morton / general. Peter: "want to look at
M22? (Handing me telescope tube) here!"

21/22, Saturday, 4412

~2200-2300 / 7-f / Mik's place / Vger / Mik, Ruby, Peter, Dianne /
Albireo + "fake Albireo."

~0530 -- 0600 / 8-f / OSO observatory / - / Leo / general view of site.

22/23, Sunday, 4413

~1500 - ~1600 / 7-f / OSO observatory / - / Leo + others / general.

0000 - 0005 / 7-f / Constantine's place / - / general.

23/24, Monday, 4414

0000 ADT ^{int.} - 0010 / 7-f / H. J. Hotel / - / - / general / Maia.

24/25, Tuesday, 4415 -

~2330 - ~0000 / 2-f / Road to Halifax / - / Peter + Dianne / Moon, Lightning

25/26, Wednesday, 4416.

2230-2330 / 4-f / Maktomkus Observatory / 18" reflector / Roy Bishop /
Moon.

~0030 - ~0100 / 4-f / Maktomkus Observatory / 8" r / Roy Moon.

26/27, Thursday, 4417 -

2200-2215 / cloudy in North but clear rest of sky /
e- / Leo / Moon, planetary configuration.

27/28, Friday, 4418.

2300-0100 ~ / 6-f / Burke-Craffney Observatory, Halifax, Nova Scotia /
+ / 16" reflector, fine optics and nicely mounted / - / Peter + others,
Randall Brooks / = / moon. M13, 57, β Cyg.

0300-0400 ^{int} / 6-f / St. Mary's / - / Peter / general.

28/29, Saturday, 4419.

~0300 - ~0400 ^{int} / 6-f / St. Mary's / - / others / general.

29/30, Sunday, 4420. - clouded over.

30/31, Monday, 4421 - cloudy.

- JULY 1980 -

1/2, Tuesday, 4422
cloudy.

ASP-WAA-ALPO Conference.

Four Sessions at Jarnac Observatory

Wednesday, July 9; 1400-1800h.

Thursday, July 10, 1400-1800h.

Thursday, July 10, 2000-on.

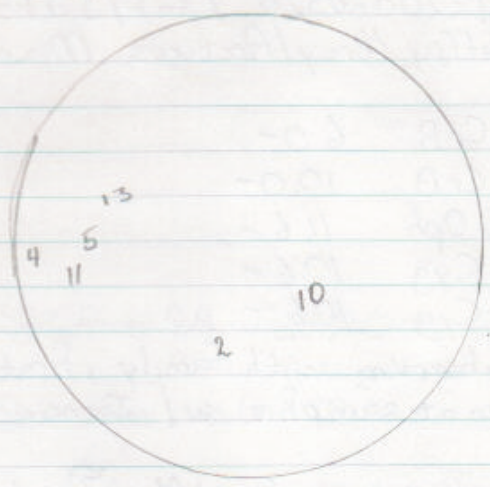
Friday, July 11, 1400-1800h.

plus Friday, July 11 2115-0030

Saturday, July 12 1400^h-1800^h

Wednesday, 2/3, 4423.

1820 Wednesday 2



G 6
S
R

1810-1825/7-f/near(?) Quebec City/Vger/Peter, Dianne, Leo Enright/SS2

1820-2330 ~ 2345/6-f/RASC, Montreal-Palomar first light/Constantine, Peter, Dianne/Moon. Peter takes photo of rising moon.

Thursday, 3/4, 4424

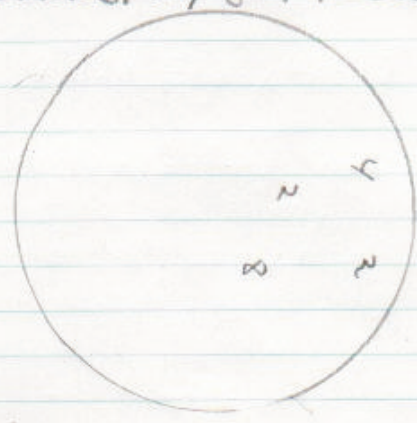
S. 1300-1330/3-f/Green Acres/Peter, others/Vger/Sun.

2230-2240/6-f/Westmt. Square (inside)/f-1-1/general views, N + W.

Friday, 4/5, 4425.

1200-1240/3-f/Green Acres/Vger/others/terrestrial, Sun.

1500-1515/3-f/Green Acres/Voyager/1-SS2.



G 4
S 16
R 56

212 (numbering error after 81) / 2200-0320 / 13-F / J J F - B / Syncom 4, Jarnac 2,
Maia / Richard, Rona, Jeffrey, Marcy / Arcturus, Mizar, M13.

RCrB 6.0-
TCrB 10.0-
RS Oph 11.6-
0150 SSCyg 10.6-
0240 SSCyg 10.6-

2200-0045- observing with family, first on balcony
with Syncom 4, then at campfire w/ Jarnac 2.

0140-0320 - with Syncom 4 + Maia (on dock)

CNI:	40	6	0230-
	23	6	0230+
	23a	5	0230+
	16	6	0300
	31	5	0300

This session honours the recent 40th anniversary
award of the Chant Medal of the RASC.

Saturday, 5/6 - cloudy - Jarnac

Sunday, 6/7 - cloudy - Tucson

Monday, 7/8 -

M. 0030-0058-F / J M F - / Little Joe II / general

CNI:	40	6-
	23	5-

Tuesday, 8/9, 4429.

cloudy.

Wednesday, 9/10, 4430.

S. 1400-1800 / 1-F / SMB / Conference Session #1:

Raleigh H. Crausky
Ollan E. Morley
Alan Porter

Las Cruces, N. Mex. 505-
Casa Grande, Ariz
Narragansett RI
LONGMONT, COLO
Neptune, N.J.
GILROY, CA.
GRIDLEY, CA
GRIDLEY, CA

DERALD D. NYE

Phil Zollner

ROBERT K. KUSTER 7-11-32

Nora Wiley

DONALD WILEY

B: 0110-0200 / 3-F / Stowell House / Mintaka / Dan S. / M57, 31,
E Lyr.

Thursday, 10/11, 4431.

S. 1330- ~~13-F / SMB~~ / ^{all} instruments / Conference #2: Sun viewing with Penumbra

Ashley Thomas Inc Permit

Prof J. A. ...
College of ... 714
43-500 ... 346-5061
Palm Beach Co 52210
72-921 ... P.P. etc
714-346-2524

Donald & Ellie Mullins

1000 La Pabla NW
Albuquerque, N. Mex. 87107

Dan Stowell

642 N. Camino Regio
Tucson, Arizona, United States

Judy Stowell

642 N. Camino Regio
Tucson, Az.

2000-0020 / 3-F / Jarnac Observatory / JMB / Pegasus, Saturn,
Penumbra, Minnowbrook. Conference Session No. 3.

- Ron Thomas 10545 PINEWOOD TWINING CA 91042
- SANDY THOMAS (SEE ABOVE)
- Marian & Harry Lichten (Lichten Observatory) South San Francisco, Ca.
- Hal Povungnet Elaine Dunham Daytona Beach Fla
- Marie Richards 17419 LOS ALAMOS ST GRANADA HILLS CA 91344
- George & Burke 4236 Longridge Ave Studio City CA 90614
- Ray Cojennie 22018 Cypress Rd WOODLAND HILLS CA 91364
- Bill & Rita Cartwright 1648 N. Sawtelle TUCSON AZ 85716
- Bill DELLINGES 5271 DUPONT AVE NEWARK CALIF 94560
- (Duane Nichols)

M13, 57, 4, 3

BCyg, Mizar, Alcor

Friday, 11/12, 4432

1400-1800 / 3-F / Jarnac Observatory / all instruments / Penumbra-Sun.
Gerson Levy 2650 N. Miracle Mile - Tucson

Mrs and Mrs. Al Hoffmann Los Gatos, Calif. *
July 11 a real experience Thank you!

View of Sun w/ Penumbra.

* took opposite photograph

4
Clyde W. Tombaugh

Discovered 9th planet Pluto
on 18 Feb 1930

A fabulous collection of telescopes



11.1980 Cliff Holmes Waa - Riverside Telescope ¹⁰⁷ Meet

and Jacqueline J. Holmes (Jackie) A marvelous experience - that of having met David Levy and seeing his beautiful telescopes with love and friendship.

EM2 2115-0030 /3-F/ Jarnac Observatory / Saturn, Penumbra, Minnowbrook / M57, Mizar, Arcturus, Antares Conference 5.

Walter H. Hans. a delightful and unique evening with a friend who also loves the stars!

Cheryl Ann ASTRO * SCENICS UNLIMITED, FRESNO, CA. 7/11/80.

Raleigh W. Crausby an unforgettable and very memorable experience which I shall always remember, thanks to my friend and fellow astronomer, David Levy. Keep the telescopes coming! May all your seeing of Voyager in quality. Thanks for making our Astronomy '80 a total success!

MAP3 0200-0210 /8-F/ JMB / -1 / general.

Saturday, 12/13, 4433.

#5. Conference #6 / Jarnac Observatory / Saturn, etc) / Lonny Baker - such a delightful break! cloud skips, but dazzling configuration.

Norm Sperling: Gee, there's so much thunder and lightning around here! Why don't you bring your menagerie of scopes back East for clear skies?

Judy Stowell ~ This has been a week to remember!
Dan Stowell

Sunday, 13/14, 4434.

E. EDT 2145-2200 /10-f / plane over Montreal / -1 / CN 5 T

Monday, 14/15, 4435.

46975. 1030-1100/7-F/Green Acres/Voyager/~10 children/Sun.

469852. 1130-1235/7-F/Green Acres/Vger/~15 children/Sun.

469953 1520-1525/87-F/Green Acres/Vger/~10 children/Sun.

Tuesday, 15/16, 4436.

4700ES. ~1300-1500/3-F/Green Acres/Vger/children/Sun.

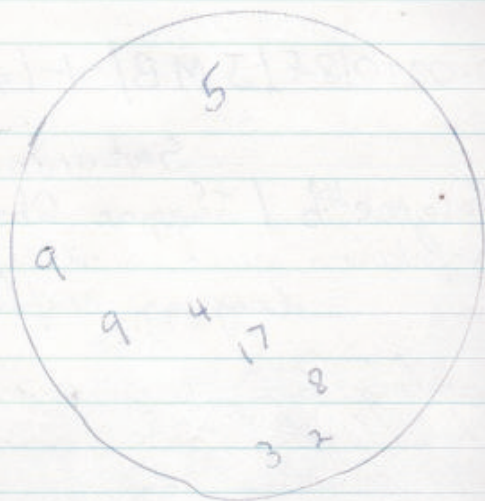
4701E2 2200-2300/3-4-F/Brassard/(Andromeda)/Constantine,
George, family/general.

Wednesday, 16/17, 4437.

47025. 1330-1400/3-F/Green Acres/Andromeda/~10 children/Sun.

470352. 1450-1510/2-F/Green Acres/Vger/-/SS2.

-clouds at night-



Thursday, 17/18, 4438.

2010-2020 / 7-F / Westmt. Squarel - / Mom, Dad / Twt.

2130 to 2300 / 8-f / Green Acres / Andromeda / 2b children, some staff /
Cres. Moon, Albireo.

Friday, 18/19, 4439.

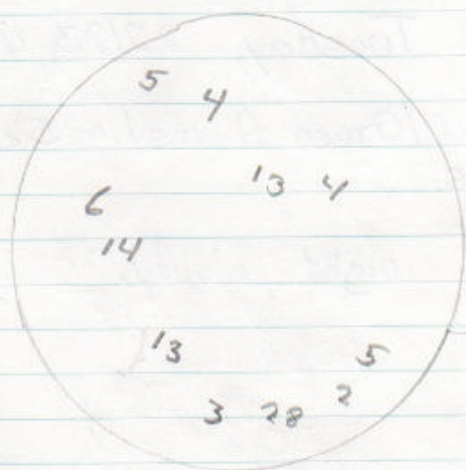
1000-1230 / 7-F / Green Acres / Andromeda / -others / Sun.

1330-1410 / 7-F / Green Acres / A Voyager / ~ 7 children / SS 2.

G = 11

S =

R =



4 2215 to 0230 / 3-1-F / J-3-B, F / Jarnac 2, Syncom 4 / Gerald,
Carl

RS Oph 11.5.-
RGB 6.0.-
TGB 10.0.-

Saturday, 19/20, 4440.

9EM 2330-0140/6-8-9F/J-J-B/Carl/Janae 2, Syncom 4/
general.

PM2 0230-0330/10-F/J-J-D/Syncom 4/-1

CN3 1^h 00^m -

VSO-I: S Per 9.3 -

Sunday, 20/21, 4441.

cloudy.

Monday, 21/22, 4442.

EP. 2310-2320/1-F/Wsmt. Sg. /Maia 1-1 -

Tuesday, 22/23, 4443.

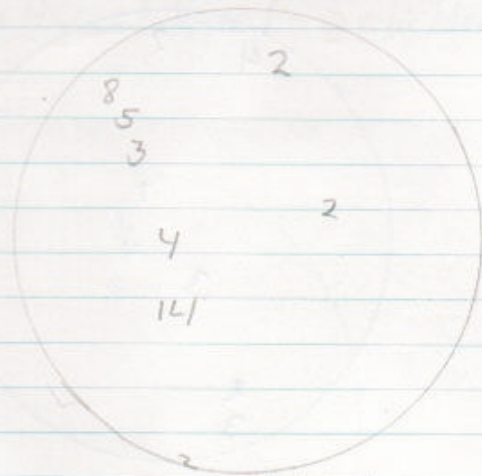
S. 1420-1500/1-F/Green Acres/ ~15 children, (counsellor)
Andromeda leaves.

night: cloudy.

Wednesday, 23/24, 4444.

39

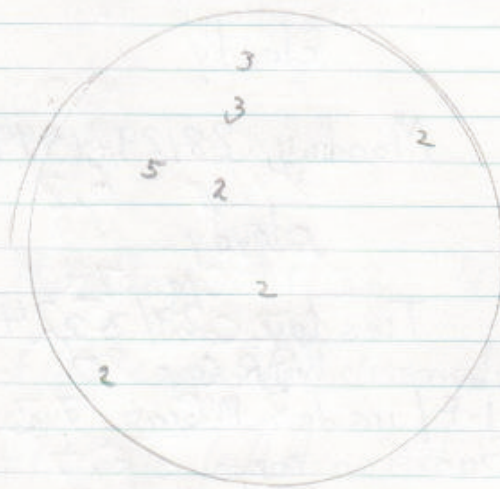
07 80



~1300--1500 / 7-F / Green Acres / children / Vger, Andromeda / SS2.
night: cloudy

Thursday, 24/25, 4445.

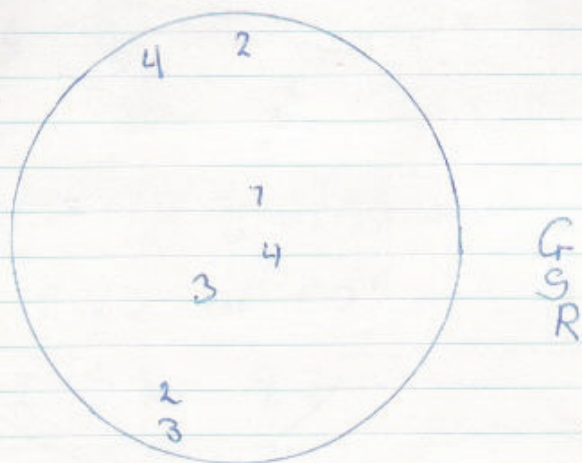
1000-1230 / 3-F / Green Acres / ~30 children / Vger, Andromeda / SS2.
Sun.



1320-1400 / 3-F / Green Acres / Andromeda / 2 children / Sun. /

1425-1440 / 7-F / Green Acres / Andromeda / ~11 children / Sun.

Friday, 25/26, 4446.



1400-1510 / 3-f / Green Acres / ~50 children / Voyager /
1. SS 2
2. Looking at terrestrial stuff.

Saturday, 26/27, 4447.

E. ~2230--~2245 / 1-2-f / J-J-F / Syncom 4 / Constantine,
Grinette, Enrico / Moon + clouds.

Sunday, 27/28, 4448.

cloudy.

Monday, 28/29, 4449.

cloudy.

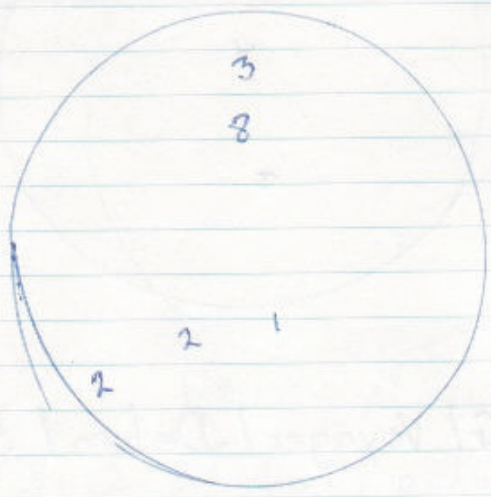
Tuesday, 29/30, 4450.

SE. 1930-2000 / 1-f / inside, Wsmt. Sq. / Jarnac 2 / Billy, Mother /
Terrestrial, Sun.
Rain.

DE2. 2200-2300 / 2-f / betw. W.S. + J-818 / Carl / general.

Wednesday, 30/31, 4451

- 4721S 1100-1115/3-F/Green Acres/ Andr. 1-10 children/ Sun.
- 4722S2 1200-1235/3-F/ " " / Andr. 1-8 children/ Sun.
- 4723S3 1340-1410/Green Acres/ Vger / ~5 children/ SS2.

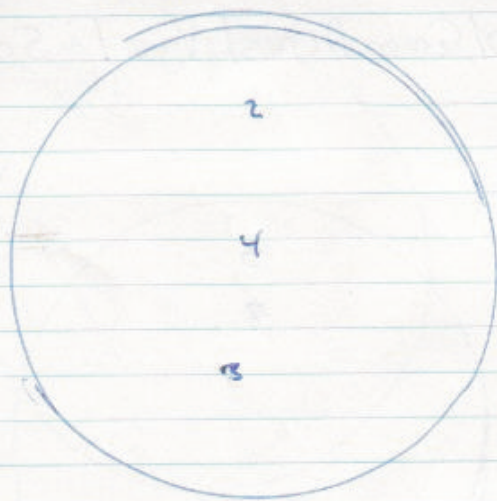


- 4724S4 1420-1425/G/ Vger / 7-F/ 3 boys/ Sun. Sundial.
- 4725E6 2130-2230/3-F/RASC/ 3" Zeiss / others /
VSO-I: WCyg 6.3-

Thursday, 31/32, 4452

- 4726S. 1000-1015/7-F/15 eagles/ Andromeda / Sun.
- 4727S2 1050-1115/8-F/Eagles/ Andromeda / Sun.

1340-1400 / 7-F/G / Voyager / ~10 Seniors / SS2.



4. 1440-1455 / 7-F / G / Voyager / Debra / Sun.

5. 2115-2335 / 8-F, 8½-F / J-G-R, Bus Field / ~18 children, staff + Enrico / Andromeda-Ceph.

BCyg as main object. No problems with children seeing it. M13

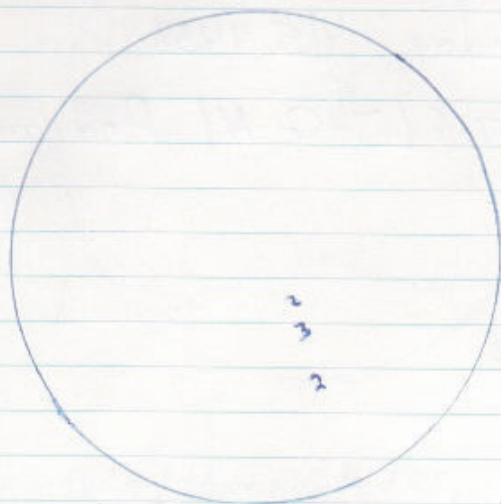
VSO-I:

SS Cyg	12.1-
RCrB	6.0-
TCrB	10.0-
RS Oph	12.0?-
XY Lyr	6.8-
u Crp	4.4-
AF Cyg	7.4-
VZ Cam	5.2-
AR Cep	8.0-
Rγ Dra	7.3-
g her	5.7-
χ her	6.3-
RR CrB	7.9-
SW CrB	8.0-

CN-I:

40	} 6
23	
23e	
16	
31	

Children must have been given intelligence pills. One had a chart (NGS) + several were using it to identify Vega. None had problems identifying β Cygni.



FRIDAY, # AUG 1/2, 4453.

1150-1210/3-F/J-G-M/Vger/other children/SS 2.

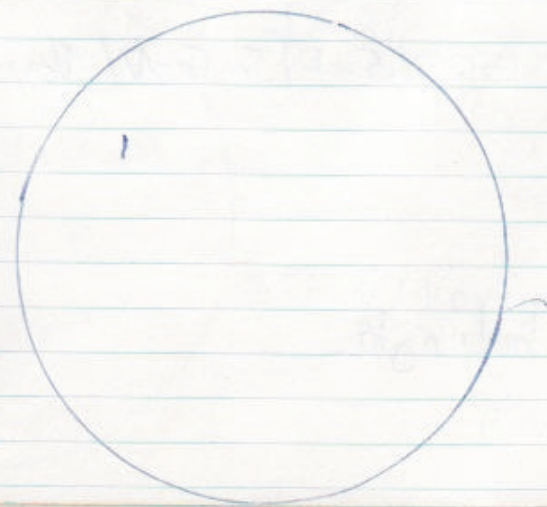
2. 1330-1400/1-F/JGN/Andromeda/~7 children/terrestrial.

13. 0000 to 0100/7-f/Long Lake Creative Arts and Work
Camp/ Paula Epstein, others/ M13, 31, β Cyg, Mizar,
M57, others. 4" Edmund fl.

VSO-I:
SS Cyg 12.1.-

SATURDAY, AUG 2/3, 44534.

1150-1230/3-f/Long Lake Camp/ 4" Edmund fl/-Paul
+ ~15 children/ SS 2.



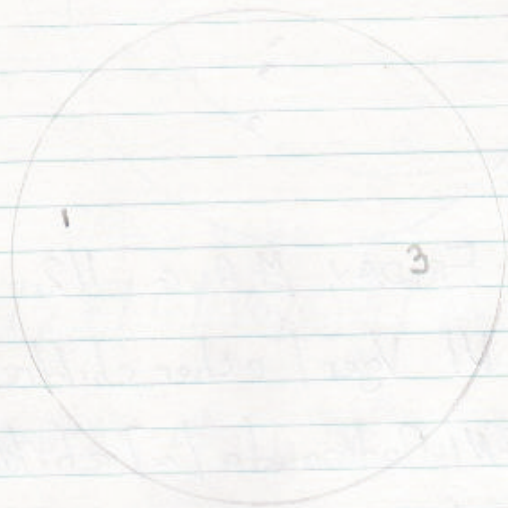
Night: cloudy

Sunday, August 3/4, 4455.

cloudy.

Monday, 4/5, 4456.

~1330-1400w/7-f/J-G-N/ Andromeda / children / SS2.



G 2

S 4

R 24

E2. 210-2315/8-f/J-G-R, Bus Field/ Andromeda / children:
25 Eagles, 10-13 3-4 staff, Enrico

β Cyg as main object: a "married star"

↓
Tuesday, 5/6, 4457.

~1330-1355/7-f/J-G-N/ Vger / ~20 Buffaloes / Sun.

Q. 1445-1500/5-f/J-G-N/ Voyager / 1 child /
SS2.

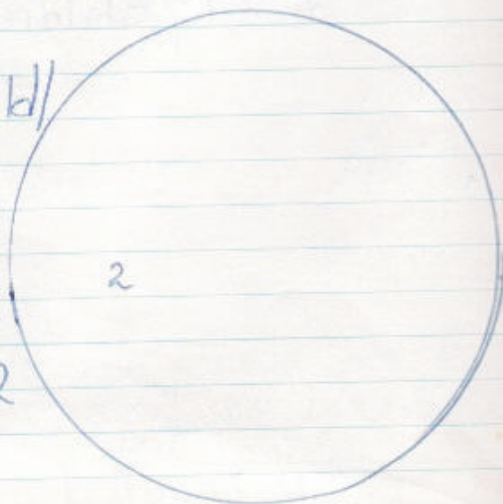
(Ruben)

G 21

S 2

R 12

cloudy night.



Wednesday, 6/7, 4458.

'08 80



1500-1515/3-f/J-G-N/Voyager/-/SS2.

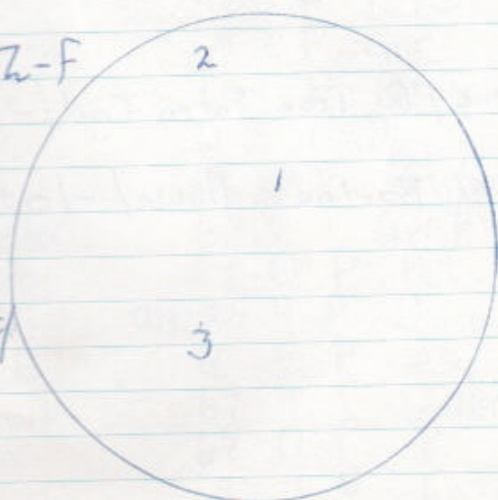
2120-2310/3-f/J-G-R, Bus, M, B/~30-35 7yr. olds/
Andromeda/ 8 "r/)

Children's object: Arcturus
2nd object: milky way star field,
all with Andromeda.

Thursday, 7/8, 4459.

1110-1125/3-f/J-G-N/ Andromeda/ R ~ 10 children/Sun. "hazy"
as light cloud was passing.

1330-1345/2-f



^{GN}
JAB/Voyager/Sun -
very hazy - used
to light cigarette.

1435-1450/4-3f/

J-G-N/Voyager/~6 children
SS2 G 3
S 6
R 36

6
Friday, 8/9 4460



1220.

G 6
S
R

744S. 1215-1230 / 3-F / J-G-N / Voyager / ~8 children / SS2.

745E2. 2120-2230 approx. / 1-2-F / Stellafane / ✓- / others / 1 star.

Saturday, 9/10, 4461.

746S. 1230-1800 / 10-3-F / Breezy Hill / many (over 50) telescopes, Stellafane meeting. Sun observing. New Tuthill Star Trap

747EM2. 2100-0100 / 10-3-F / Breezy Hill / Tuthill "Star Trap" - many others / Peter, Terry, others /

→ SS Cyg 8.3 ! ! ! ! ~

! Perseid going "up" from radiant!

748MP2. ~0130 - ~0140 / 10-F / B. Tree Farm Cgd / - / others / general.

749MP3. ~0200 - ~0210 / 10-F / Hartness House / - / others / general.
Good sky.

Sunday, 10/11 Aug. 4462

47

08 80

2200-0530 / 10-f/on route to Jarnac, 2240 at Jarnac, 2305
on deck

J-J-D

Stoek, Enrico, John van Ophem, Charles Fassel, Gerald Schieven, Alistair
G, Gary Boyle, Peter, Dianne, Kathy, M, June J, Tom G, Robert, Walter, Daria,
(2210 Peter saw -6 P exploding; 2230 before Enrico saw one, a Perseid +1.)
Perseids

Time	Count	Type	Observer	Time	Count	Type	Observer
2315	M S	O		35	3 N	Enr.	
1	1 P	E		36	4 P	Ger	
2	1 P	E		37	4.5 P	Ger	
3	-1 P	E		38	5 P	Pet.	
35	4 2 P	D		39	2 P	Pet.	
5	3 P	D		40	1 1/2 N	Ger	
6	3 P	E		41	5 N	Pet.	
7	3 P	D		42	4 N	Pet.	
8	2 S	P		0010 43	3 N	Ger, Pet.	
9	-2 P	Peter		44	2 P	David	
10	4 P	D		45	3 1/2 N	Rob	
11	-1 P	E		46	5 P	Dianne	
45	12 4 P	D		47	2 N	P, G	
13	2 P	Pet		48	5 P	P, Dianne	
14	2 P	Pet		49	2 P	Enr	
15	0 P	Ger		50	5 P	Walter	
16	3 N	And		51	5 N	D.	
17	4 PN	Pet.		52	1 P	G	
18	1 N	E		53	4 1/2 N	Wal	
19	2 N	E		54	3 2 N	Enr	
20	3 4 P	G		55	4 P	W fast	
21	4 PMP	Ger		56	4 N	Peter	
22	4 N	G		0020 57	2 P	Ger	
23	4 P	G		58	0 P	David	
55	24 -1 P	D trail		59	2 P	Ger	
25	+1 N	Enr		60	-1 P	Pet. Trail	
26	+3 P	Enr		61	2 P	D, Ger	
27	-2 1/2 N	P		62	0 P	Pet, Enr	
28	5 P	Robert		63	3 P	Ger, Pet.	
29	4 1/2 P	Walt		64	0 P	Pet	
30	-1 P	Ger.		0030 65	4 P	Dianne	
0000 31	2 P	Pet.		66	5 P	Pet.	
32	-1 P	Charles		67	4 P	Walter	
0000 33	4 5 P	Ger		68	0 P	P.	
34	4 P	Ger		69	4 P	En.	
70	-5 P	David.	Pet, etc. boide				
71	-2 P	Pet					
72	4 P	Pet.					
73	2 P	P/D.					
74	0 P	Enr.					
75	4 P	G, P					
76	4 P	P					
77	5 N	Chas					
0040 78	-2 P	Pet.					
79	-2 N	P, En, Ger					
80	3 P	Ger					
81	4 N	Ger					
82	+3 P	Enr					
83	4 P	Walter					
84	0 P	Walter					
85	2 1/2 P	P.					
86	2 P	Rob.	Camden Bellapra ws.				
0050 87	-5 P	several					
88	5 P	Pet.					
89	3 N	Chas.					
90	4 1/2 N	Rob					
91	5 N	Pet.					
92	3 N	Rob.					
93	-1 5 P	Ger					
94	3 5 P	David					
95	2 1 P	Charles					
96	2 1/2 P	Peter					
97	3 P	Walter					
98	+2 N	Enr					
99	+4 N	Walter					
100	-1 P	Enr.					

ORAN.

101. 4 PN Pet
 102. 12 P David
 103. 3 PN Enr
 104 3 P Pet.
 105 1 P ~~Chart~~ very long
 106 -1 P Pet
 107 -4 1/2 P Robert
 108 2 P Ger
 109 0 N Enr
 110 0 PP Pet
 111 2 P David
 112 4 P Walt
 113 25 P David
 114 2 P Enr
 115 0 P Enr Aries
 116 3 P Diann
 117 24 N Gerald
 118 5 N Pet
 119 4 P Ger
 120 4 P Enr Cass
 121 0 P Enr Etnus
 122 2 P Enr Cepheus
 123 3 P Dian
 124 -1 N Enr Perseus
 125 3 P Enr Cygnus
 126 2 P Dian Cygnus
 126A 25 BAT Enr ~~Antares~~ Lepus
 127 2 P Enr Aries
 128 3 P Dian Etnus
 129 2 P Enr Aries
 130 3 N Dian Etnus
 131 4 P Dian
 132 2 P Dian Cygnus

238 130 0 PN Chas.
 134 1 P
 135 1 P
 136 2 P Gen
 137. 1 P David
 138 3 P Ger.
 139 2 P Charles.
 140 ~4? P? June
 141 5 1/2 P Ger
 142 4 1/2 N Ger

1:30

143 4? P Kathy
 144 5 P Ger
 145 1.5 P David
 146. 4/3 P David/Alist/Gen
 147. 3 P-Peg Alistair
 148 4 P Charles. Agu.
 149. 4 P Cyg David
 150. 4 N Peg Alis
 0300 151 5 P Peg Ger
 0300 152 4 N Vol. Chas Walter
 153 2 P Agr Ch.
 154 3 P Peg Alist
 155 2 P Peg Alist
 156 4 P
 157 2 P Peg
 158 4 1
 159 4 Ch
 160 2 Agr Ch
 161 4 Psc P David
 162 4? P Gen
 163 5 P Gen
 164 3 1/2 N Alist
 165 2 1 P Gen
 166 5 P Agr David
 167 2 N UMa Ch
 168 0 Per Tau Gen
 169 0 P UMa Walter
 170 3 P Cyg (down arm) fast David
 0305 171 3 P Agr Ger
 172 2 4 P Tau Enr
 173 3 1/2 N Cet Alis.
 174 3 Per Aur Ger
 175 3? P? Agr David
 176 -1.5 P Cyg David
 0320 177 2 P Per Aur David
 178 0 P Cet David/Alist.
 179 2 P Tau Ger
 180. 2 N And David
 181. 3 P Cass? Gen
 182 3.4 P Agr David
 183 2 1/2 N Psc. Alist.
 184 4 N Ger
 0330 185. -1 P Aur Enr.

AN.

	186	3	P	Agr	David
	187	4 1/2	N	Tau	Ger
0335	188	35	P	Lac	David
	189	3	N	Tau	Ger
	190	4	P	Tau	Ger
	191	2	P	Cyg	David
	192	2	P	Aries	David
	193	0	P	Cyg	Enrico
	194	2	P	Agr	David
	195	3	P		Ger / David
	196	4	P		Ger
	197	4	N	Psc.	
	198	2	P	Aur to Venus	
0345	199	-0.1	P	Ori, Gem	Atis
	200	+2	P	Dra	Enr
	201	2	N	♁	Ger
	202	5	N		Chas

0338 Venus rises.

0430 dawn

0358	203	2	P	Tau	Enr
	204	+1	P	Aur	Enr
	205	+2	P	UMi	Enr
0400	206	1	N	Cass	Ger
	207	+2	P	And	Enr
	208	0	N	Plus	Alist
	209	5	P	Lynx	Gerald
	210	3	P	Cyg	David
	211	1	P	Cet	David
0400	212	4	P	Lac	David

~0200 CN5 Dome 2.5

0425 213 4 P East David
 214 ? Early meteors seen
 215 } at other sites by Peter Enrico

0440 216 +1 P Ori David
 0450 217 -2 P Gem David

← (2:18)

217 meteors
some sweeping w/new Tuthill telescope.

5

0200 SS Cyg 8.6-

Monday, 11/12, 4463.

1230-1315 / 10-3-F / J-J-D / 8" f/5 / others /



G 9

S

R

Night: cloudy.

Tuesday, 12/13, 4464.

AN 2130-0515 / 2-10+-f / J-J-D / 8" f/5 / Daria, Tom, Charles, Tom G, Peter, Dianne, June, Robert, Gerald, Gary, Alistar, Enrico, Jeff, Kathy, John

200	1	1	N	Cyg	John	00:00	20	0	P	PEG	JEFF
220	2	2	P	CRB	GERALD		21	0	P	OPH	GARY
	3	3	P	DRG	DAVID		22	0	P	UPH	ENRICO
(D)	4	4	P	CEP	ENRICO		23	-2	P	DRG	GERALD
	5	4	P	"	ALISTER		24	-2	P	HER	"
2230	6	3	P	ARI	DAVID		25	2	S	CYG	JOHN
	7	-2	P	UMI	TOM		26	2	P	BOO	ALISTER
22:40	8	-0	P	CRB	GERALD		27	2	P	BOO	GERALD
22:50	9	4	S	CYG	DAVID		28	3	P	UMA	ALISTER
	10	-1	P	CYG	PETER		29	4	S	PISCES	ENRICO
23:00	11	-0	S	UMI	GERALD DAVID	CLOUDS	30	2	S	CRB	GERALD
	12	3	S	AND	GARY	"	00:10 31	3	P	CAP	ENRICO
	13	0?	P	CAP	DAVID	"	32	4	P	CYG	ROBERT
23:10	14	-2	P	GRB	TOM	"	33	3.5	S	CAM	GERALD
	15	-1	P	UMI	GERALD	CLOUD	34	5	P	CYG	ROBERT
23:40	16	1	AGR	AGR	GARY	"	35	4.5	S	UMI	GERALD
23:50	17	-2	P	OPH	ENRICO	"	36	4	P	ANDRI	JOHN
	18	-3	P	CRB	GERALD	"	37	3	P	PEG	DARYA
	19	1	P	SGR		"	38	2	P	CASS	

39	-1	P	LYR	ROBERT	83	-2	P	SAG	PETER	
40	0	S	AQU	DARYA	84	-2	P	UMA	GERALD	
41	?	P	UMA	GERALD	85	3	P	CYG	JEFF	
42	+1	P	CYG	GARY	86	4	P	CYG	GARY	
43	2	P	PEG	ALISTAR	87	2	P	CAP	ENRICO	
44	4	S	DRA	GERALD	88	0	S	OPH	GERALD	
45	5	S		DIANNE	89	0	P	CAP	ENRICO	
46	1	S	AND	JOHN	90	1.5	P	CYG	DAVID	
47	3	P	DRA	JEFF	91	3.5	P	HER	ALISTAR	
48	3	S	ARI	DIANNE	92	3	P	PEG	DAVID	
49	5	P	CYG	GARY	93	3	P	LAC	ROBERT	
50	3	S	AQU	ENRICO	94	1	PS	CAP	JEFF	
51	+2	P	PEG	Peter	95	3	P	UMA	AL	
52	3	P	AQU	Enrico	96	3	P	CAP	GARY	
53	-2	P	SAG	every body. but David L.						
54	2	P	HER	Gerald	100	97	3	P	AQU	ROBERT
55	4	P	PEG	JEFF	98	3	P	DRA	AL	
56	1	SP	ARI	Peter	99	2	S	PEG	ROBERT	
57	4	S	AQU	Enrico	100	3	S	ARI	PETER	
58	4	P	PEG	Darya	101	4	P	CYG	DAVID	
59	3	P	DRA	David	102	1	P	CAP	ENRICO	
60	3	P	AQU	Enrico	103	1	P		GERALD	
61	2	S	Del	Robert	104	-4	P	OPH	GERALD	
62	5	S	Gas	Peter	105	3	P	OPH	GERALD	
63	4	S	Cap	David L.	106	3 1/2	S	DRECO	ALISTAR	
64	4	P	UMI	Gerald	107	4	P	LAC	DAVID	
65	3	S	Gas	Gary	108	2	P	PER	PETER	
66	-1	P	UMI	Gerald	109	3	S	URSOM	GERALD	
67	3	S	TRIA	Peter	110	1	P	AQUILA	DAVID	
68	4	P	UMA	Gerald	111	4	S	PSCA	ENRICO	
69	4	S	ANDR	Dianne	112	1	P	UMINOR	GERALD	
70	2	P	PER	Jeff	113	3 1/2	P	HER	AL	
71	5	P	DEL	ROBERT	114	0	P	CAM	PETER	
72	3	P	AND	DIANE	115	0	P	HER	ROB/AL/JE	
73	4	P	PEG	GARY	116	3	P	CAC	DAVID	
74	3	P	SCU	ENRICO	117	-1	P	CAP	ENRICO	
75	3	P	CAP	ENRICO	118	1	P	AND	DAVID	
76	3	S	SCU	ENRICO	119	5	P	AND	JEFF	
77	2	S	PEG	DAVID (slow)	120	1	P	AOL	DARYA	
78	3	P	PER	"	121	4	S	PEG	PETER	
79	4	P	SCU	ENRICO	122	4	P	LAC	PETER	
80	4	P	DEL	GARY	123	3	P	HER	AL	
81	3	P	AND	ROB	124	2	P	OPH	ENRICO	
82	3	P	APR	PETER	125	4	P	CYG	DAVID	

F4752AN

126	2 P	CYG	DAVID
127	2 S	DEL	ROB
128	2 P	LYRA	DARYA
129	0 P	PICCES	ENRICO
130	2 P	U MINOR	GERALD
131	3 P	PEG	DAVID
132	0 P	AQL	ENRICO
133	4 P	AQL	JEFF
134	1 P	AQL	JEFF
135	1 P	AQL	JEFF
136	1 S	CYG	ENRICO
137	4 P	LYR	PETER
138	1 P	PER	PETER
139	2 P	AND	DIANNE
140	4 P	PEG	DAVID
141	1 P	UMI	GARY
142	5 P	LYG	DAVID
143	4 P	PEG	DAVID
144	4 S	CET	AL
145	4 3/5 S	CYG	DAVID
146	4 P	PEG	DAVID
147	4 P	CORBOR	DIANNE
148	1 P	OPHI	GARY
149	1 P	CASS	AL
150	2 P	OPH	DIANNE
151	5 P	HER	DIANNE
152	0 P	AQL	DARYA
153	4 P	AQU	DIANNE
154	1 S	TRI	CAHY
155	2 P	LVR	ROBERT
156	0 S	CAM	EVERY
157	4 P	CAP	ENRICO
158	0 P	LAC	PETER
159	2 P	CASS	ROBERT
160	4 P	HER	ENRICO
161	3	AQL	ENRICO
162	2 P	PERS	JUNE
163	3.5 S	CAM	ROB
164	3.5 P	PSA	DAVID
165	4 P	CAP	DAVID
166	2 P	CYN	GARY
167	2 P	DETH	ENRICO
168	2 P	CAP	ENRICO
169	4 P	AAAQR	ENRICO

Enrico is recording

David apply a vacuum to ~~an~~ ^{each} calcium enclosed albuminous substance; and get the yolk!

DAY

1:50

Jeff is recording

450 long

4752 AN

APR 08

5:30 AM

170	5S	CAP	ENRICO	
171	3P	CAR	ENRICO	
172	2P	PEG	DAVID	} same time
173	1P	PSA	ENRICO	
174	2P	PERS	JEFF	
175	2P	CAS	BOB	
176	3S	CGT	AL	
177	5P	AND	DAVE	
178	1S	USRM	DARYA	
179	5P	PEG	JEFF	Enrico is recorded
180	2 1/2 P	PEG	TOM G	
181	4 P	LYR	ENRICO	
182	1 P	AQL	JEFF	
183	3 P	TAV	CATHY	
184	6 P	PER	DAVID	
185	2 1/2 P	AGR	AL	
186	-2 P	DEL	TOM G	
187	3 P	AGR	AL	
188	3 S	TRI	CATHY	
189	10 P	CAP	DARYA	
190	2 S	TAV	GERALD	
191	0 P	PEG	DAVID	2:17
192	3 S	CASS	GERALD	
193	3 P	AGR	ENRICO	
194	3S S	CASS	DAVID	
195	4 P	PER	CATHY	
196	4 S	DEL	ENRICO	2:25
197	3 P	UMA	GARY	
198	2 P	CAP	JUNE	
199	-1.5 S	LET	AL	
200	2 S	CAM	DARYA	
201	-1.5 P	PEG	DAVID	
202	5 S	TRI	DAVID	
203	4 S	PER	GERALD	
204	1 P	PER	TOM S	~ 0200 Dome
205	1.5 S	UMA	TOM S	
206	1 P	UMA	TOM S	
207	0 S	CAS	TOM S	
208	4 P	CYG	ENRICO	
209	1 P	PSA	DAVID	
210	4 S	UMA	TOM S	
211	3 P	Persers	DAVID	
212	0 P	UMA	TOM S	
213	3 P			

*4752AN

214	1 S-	AQL	TOM S
215	4 S	CEP	DAVID
216	5 S	CAP	ENRICO
217	3 P	CAP	"
218	4 S	AQR	Peter
219	2 S	CAM	GERALD
220	2 S	DRA	TOM S
221	-1 P	CEP	PETER
222	3 S	UMA	TOM S
223	1 P	CASS	TOM S
224	6 S	PER	GARY
225	5 P	TAU	PETER
227	4 P	CET	PETER
228	4 P	CAP	DARYA
229	-5 P	CEP	GARY 10° TRAIL
230	3 S	CASS	GERALD
231	1 S	DRACO	DARYA 2:46
232	1 P	AVR	TOM G. (US)
233	3 P	PEG	DAVID
234	2 P	LYR	TOM S. 2:55
235	0 P	CAM PER	TOM G.
236	2 P	AQR	DAVID
237	0 P	PER	ROBERT
238	4 S	CEP	ENRICO
239	5 P	CAM	ROBERT
240	0 P	CYC	ENRICO
241	4 P	AQR	PETER
242	-2 P	CET	ROBERT 3:00
243	2 S	DRA	DARYA
244	2 P	AVR CAM	AL
245	2 P	UMA CAM	GARY
246	3 S	AQL	DIANNE
247	5 P	CEP AQL	PETER
248	2 P	PER	ROBERT
249	4 S	AVR	JEFF
250	5 AP	AQR	PETER
251	2 P	CYC	DIANNE
252	1 P	CET	JEFF

253	+1 P	-2 N	AQL	Kathy	David is
254		2 N	Aries	Dianne	recording
255		-1 P	Lac	Tom	
256		+1 P	Peg	Enrico	
257		+3 S	Cas	Jeff	Darya is
258		3 P	Aqua	Dave.	

recording maintenance

251	13	P	PEG	Tom S
260	3	P	Peg	Jeff.
261	-1	P	Cyg	Jeff
262	3	P	lets Cas	Dave
263	4	P	Cas	Dave
264	-1	P	Cas	Jeff
265	3	P	Cas	Dave
266	3	S	CaM.P	Jeff
267	3	S	Aur.	Tom S
268	3	P	Dra	Alastair
269	4	S	Aqua	Tom G
270	2	P	U MI	Peter Robert
271	5	P	U MA	Peter Robert
272	7	P	Cap	Alastair Enrico
273	2	P	Aqua	Darya
274	2	P	Cygnus	Robert
275	1	S	Aur	Tom S Jeff
276	3	P	U Aqua	Peter Darya
277	-2	P	CYG	Darya
278	1.5	P	LYR	Alastair
279	1	P	PEG	Jeff
280	5	S	Aqu.	Robert
281	+2	P	U MA	Alastair
282	-1	P	CYG	Cathy
283	-1	P	CYG	Cathy
284	3	P	U MA	Alastair
285	2	P	Aur	Tom S.
286	3	S	Pisces	Tom S
287	3	P	Peg	Darya
288	3	S	Pisces	Tom S
289	2	P	Peg	Piame
290	-4	P	Cas	everybody 83.5
291	7	P	TAU	Robert
292	3	P	Cas	Robert
293	4.5	P	TAU	Alastair.
294	2	S	Pisces	Enrico
295	4	P	Aur	Jeff
296	3	P	CYG	Darya
297	0	P	Aqu Sculptor	Gary
298	+1	P	Cyg.	Alastair
299	-1	P	Aqu	Alastair
300	3	P	Aqu Pisces	Enrico 83.5
301	2	P	Peg	Alastair
302	1	P	TAU	Dave
303	2	S	Aries	Darya

304	2	P	Aries	Robert
305	2	P	Peg	Enrico
306	5	S	Aqua	Rob
300	One just whipped over there but he was too tired to figure it out to find out what it was I guess its... I don't know.			

308	2	P	Her	Rob
309	2	P	Pisces	Enrico
310	Did someone do the one that just whipped by there?			
311	0	P	Cet	Jeff
312	4	P	Pisces	Peter
313	2	P	Aries	Enrico
314	2	P	Cet	Enrico
315	2	P	Pisces	Parya
316	4	S	Cet	Peter
317	2	P	Sculptor	Enrico
318	4	P	Pisces	Dave
319	0	P	Cyg	Darya
320	2	P	Cet And	Gary
321	2	S	And	Enrico
322	3	P	Eridanos	Tom
323	4	P	Her UMA	Peter
324	2	P	Peg	Enrico
325	4	P	Aries	Andranda
326	1	P	Cet	Tom G.
327	2	S	Cet	Tom S.
328	4	S	Cet	Enrico (4x)
329	4	S	LA Cert	Enrico
330	2	S	UMI	Robert
331	5	S	Pisces	Peter
332	3	P	Cet	Gary
333	4	P	gnx	Dave
334	3	P	Peg	Dave
335	3	P	Lym	Dave
336	3	P	Pers	Peter
337	3	P	Apr	Enrico
338	4	S	Per	David
339	3	P	Per	David
340	1	P	Cass	David
341	3	P	AUR	David
342	2	P	Aries	Dave

EP
IME
at post
Banyan
1:00

-1 betw 1+2 sep 50. = 341. meteors.

CN3 0h 40m East. Syncom 4.

341
+ 218

559

Wednesday, 13/14, 4465.

753E. 2150-2205/4-6-f/Wsmt. Sq. roof/Jarnac 2/-/general.

Thursday, 14/15, 4466.

cloudy night.

Friday, 15/16, 4467.

754S. 1020-1035/3-f/J-G-N/Andromeda/-10 children/Sun.

755S2. 1110-1125/3-f/J-G-N/Andromeda/~20 children/Sun.

756S3. 1150-1205/3-f/J-G-N/Andromeda?, Vger/Sun.

757E4. 2100-2300/1-3(10) f/J-J- Water/Tuthill scope, named Virgo/Enrico general.

Saturday, 16/17, 4468.

758EM. 2105-0100/10-f/JAJ-D, water/Virgo, Syncom 4/
Charles, Gerab, Enrico

CN3: 0h 30m N.

in Cap 4.0-

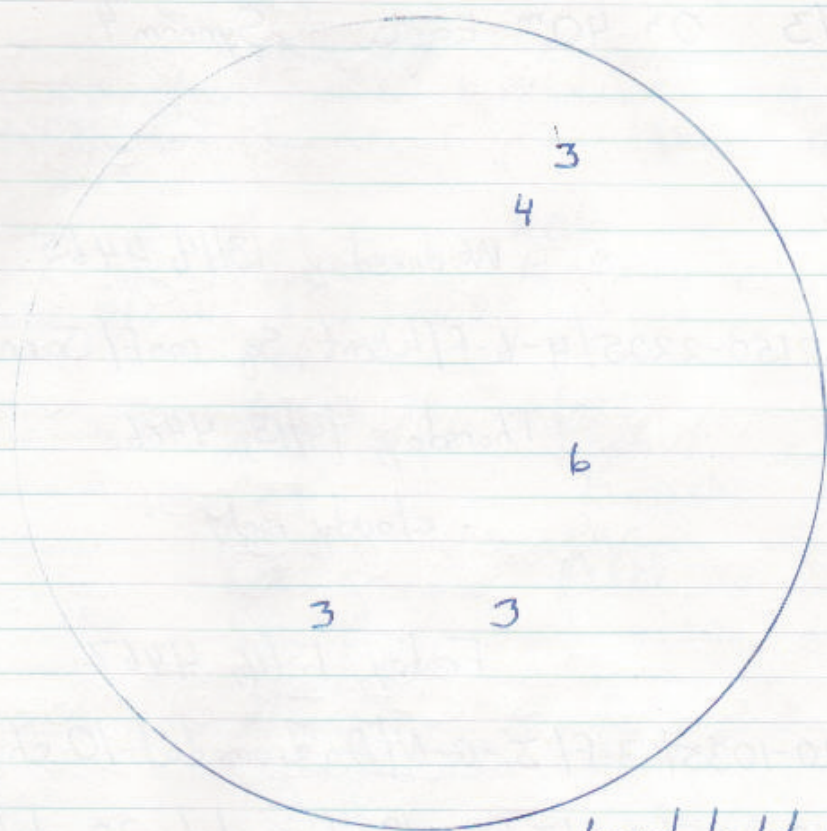
3 "Cygnid" meteors

- 1. 2 mag
- 2. 2 "
- 3. 4-5 "

759S.

Sunday, 17/18, 4469.

1430-
Gerald, Frank, Enrico, Elaine and Cynthia Spencer/
Sun. See p 58. SS 2.



hand-held view.

2100-2115 / 3-f / near Hawkesbury / Enrico / general.

Monday, 18, 19, 4470.

1000-1035 / 2-1-f / J-G-N / a few kids / Andromeda /
S general, terrestrial.

2. 1200-1230 / 3-f / J-G-N / several / Voyager, Spacelight,
Andromeda / Sun, terrestrial.

3. 2000-2025 / 3-f / Miss Williamson's house / -f /
general, Moon.

Tuesday, 19/20, 4471.

2. 1020-1025 / 2-f / J-G-N / Vger / 2 or 3 children
Sun. w. filter.

2. 1320-1350 / 1-f / J-G-N / Voyager, Andromeda / terrestrial.
View of large crow's head
with 10mm eyepiece

3. 1505-1520 / 1-f / J-G-N / Andromeda / Brahm / terrestrial.

Wednesday, 20/21, 4472

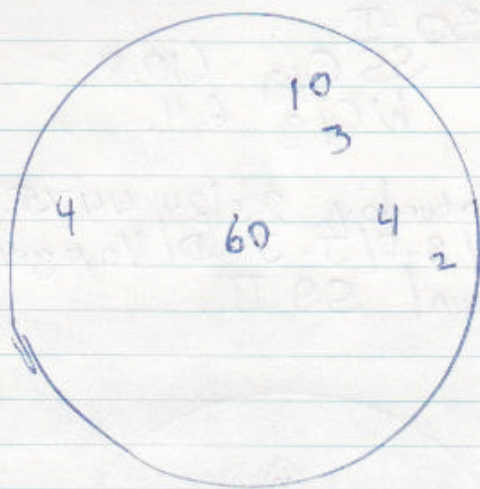
59
08 80

1100-1120 / I-F/J-G-N / Voyager / Bunk 33 / trees.

2. 1440-1455 / I-F/J-G-N / Andromeda / Brahm (Bunk 33) / Terre

Thursday, 21/22, 4473.

1045-1115 / I-F/J-G-N / Voyager / 2 children, Carl / SS2.



1000-1025 / 7-F / J-G-N / Andromeda / Carl, 2 children / Sun projected on ceiling.

2330-2345 / 7-F / Harveys, Princess St, Kingston / Virgo / Mike Payette, Leo Enright / Moon.

0225-0525 / 10-F / OSO Observatory [Spanish for UASA, bear] / C8; Andromeda, Syncom-4.

It is a pleasure to observe with a distinguished Amateur Astronomer... Leo Enright.

Rho Hercules 5.5/4.5.
M15? M2 M1 M42 M43.

0340 + 0530 § 01^h00^m East, CN 3. -

7

Friday, 22/23, 4474.

1450-1505 / 3-F / J-19I-G / Virgo / - / Sun.

EP2 2155-2205 / 3-Fm / near intersection of Ont. 15 and 7 /
- / - / general.

EP3 ~2300--2310 / 3-Fm / on Ottawa River, Cumberland, Ont.
+ Masson, Que / - / - / general.

M4 0100-0200 / 3-fm / J-J-D / Andromeda, Voyager / Jeff Fret /

VSO-I
SS Cyg (10.8)
W Cyg 6.4

Saturday, 23/24, 4475.

1530-1550 / 3-F / J-J-D / Voyager I - Enrico, Jeff, Bill
Strople, David Brown / SS II.



4780S.

MEM2. 2100-0100 | 6-F | J-J-B^D / Andromeda, Maia /
Enrico, Jeff / Moon.

CN-I:

40 }
23 } 6. ✓
23a }

61 Cyg.

M3. 0200-0250 / 6-7-F / J-J-B / Andromeda-Caph / Bill Strople /
Moon:

Aristarchus
Herodotus.



G 3
S 29
R 59

OS. 1645-1710 / 9-F / J-J-D / Voyager, Celestron / David, Enrico J
Bill / SS2. Andromeda
Photos by David.

ME2 - 2300-2315 / 6-5-F / Wsmt Sg roof / Maia / - / CN-I.

40 }
23 } 4. ✓
23a }

Monday, ^{25/26} 24/25, 447.

2E. (Illness) / 2300-0115, 17-F / Usmt Sq, Apt 1115 / Maia / Mom, Dad, Beulah, Jack.

Penumbral Lunar Eclipse 2330 73% to be shading moon.

2310 - ? some shading -

2315 - definite but very slight shading.

2320 - easier? seen with unaided eye
telescope through window is out of focus.

2325 - unimpressive

2330 - It's there, but faint, same with Maia.

Uncle Jack: looks like a grapefruit that's been sitting on the bottom ^{of the pile} too long.

2335.

Mom: there, but not spectacular

2355 - Definitely, the penumbral shadow is there despite its confusing presence over the normally grayer maria. For the eastern maria, they're definitely brightened and the western one is darker.

0110 after nap - some clouds. Full moon bright, no shadow at all. Successful eclipse. After all day clouds, sky cleared at night and stars began to recloud after eclipse!

0115 - end of session.

Tuesday, ^{26/27} 25/26, 447.

cloudy.

Wednesday, 27/28447.

cloudy

Thursday, 28/289447.

3E ~~220-2~~ 2200-2-2300-2340 / 8-3-F / Summit Park / -8" Celestron /
David Brown / Moon, Altair. Session with observatory's telescope

~~Thursday 27~~ Friday, 28/29/24490.

4EM 2315-0115 / 7-F / between Westmount Sg. + 818 / - / general.
CN5 Dome 2.

29 Saturday, 448 . 30/31

SS

cloudy.

30 Sunday, 448 . 31/32

5M. 0000-0100 ~ / 3-F / London / Voyager / Peter, other London
Centre people / Moon.



See session
4783 E at
Summit Park.



September.

Monday, 1/2, 44834.

2130-2215/10-f/Shartle Observatory, Stilesville, Indiana/
3" finder/Stan Shartle, Constantine, Grinette/beautiful
finder. "Ball lightning" ?? later on?

Tuesday, 2/3, 4485.

M. 0100-0115/8-f/Topeka, Kansas/-/-/general. MW visible
through lighted urban parking lot.

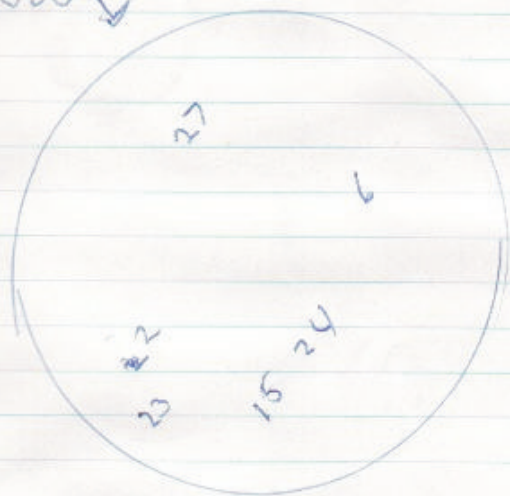
Wednesday, 3/4, 4486.

01900~v-v~1945/~~W Kan~~ E. Colorado/-/Constantine,
Grinette/spectacular "explosive red" sunset.

Thursday, 4/5, 4487.

1445-1520/3-f/Genesee Mountain Park/Voyager/Constantine, Grinette/
SS 2.

1500~



G 6
S
R

ES2. 1700~--1730/3-f/14,100' summit of Mt Evans/-/Maia/C+G/
Sun, terrestrial.

P3 2 ~ 0050-~0100/3-f/Denver, Motel 66/-/Mark Heifner/
general.

Friday, 5/6, 4488.

P. 2300-2310~|3-f/Grand Junction|-/-/general.
P2 2345-2355/2-f/G. 3|-/-/general.

Saturday, 6/7, 4489.

2045-2130 MST / Virgin River Canyon + ven, Ariz-Nev, through open roof of moving van / Maia / C+G /

VSO-I

154428 R G B 6.4-
183439 X Y Lyr 6.8-

CN-I

40 23a
23 16
6

472. 0100~ - 0110~ / San Vegas strip / C+G / 3-f / one star, Altair.

Sunday, 7/8, 4490.

~2015 - ~2045 / E California / Maia / C+G / (E of Barstow)

VSO-I:

R G B 6.2-

CN-I

40
23
23a
16 } 5.

Monday, 8/9, 4491.

5. 1930-~1935 / Pacific Ocean / - / C+G / Sun over ocean. 13

Tuesday, 9/10, 4492.

~2200 - ~2300 / 8642 Wells, Riverside / Cliff. Holmes, Jackie Holmes, Constantine + Ginette / - / general.

Wednesday, 10/11, 4493.

1500- / 700 / Hale Observatory, Palomar Mountain / Spacesight / C+G / Sun.

2. 2240-0000 / ^{10-f} Rt. 8, near Yuma, moving van / C+G / Maia / general

0330-0545 / 3-f / 3-M-B / C+G / Saturn, Penumbra / Venus, M42, M31,

Thursday, 11/12, 4494.

P ~1900-1920/7-f/Flandrau/+ C+G/ etc. / general.

M2. 0200-0400/9-F /inside JM/ Transit/ -1 First light.

Friday, 12/13, 4495.

~~210~~ 2030-2230/8-f 3-f/JMF/ Judy, Dan, Bonnie/
First light on Echo-Syncrom Y combination /

Danny suggests SS Cyg.

213843 So. SS Cyg 10.6 at 2120, 7-
10.6 2150 -

Saturday, 13/14, 4496.

M. 21930-0330/10-2-10-f/JMB/

Penumbra
Saturn
Pegasus
4" wooden scope
Europa
Rigel
6" f/4 from Duane
Minnowbrook

Others present: See p 67.

Objects: many. M31
Obcl
M13
M.....

SS Cyg ~~9.8~~ 10.6-

Saturday, Sept. 13, 1980.

Constantine Papasomas 7485 MALO, BROSSARD, P.Q. CANADA. J4Y1C3
 " " " (Great Gathering)
 Albert M. Ries 11 E. Orange Grove Rd. Apt 2014, Tucson
 Kristi Skinner mailing - 81726 S. Richey Blvd.
 Arthur Balcan 8239 Rawhide Trail
 Robert C. Holquist (NEW MIDDLETOWN, OHIO) UofA = SUPO 10049 APACHE 110
 Richard S. Miller (Garden Grove, Ca.) UofA = SUPO 10421 APACHE 137
 Joseph C. DeLuti 819 N CAMINO SECO TUCSON
 Gary A. Stall 6752 S. VIA PERICO TUC AZ 85706
 Robert G. Hill 1437 N. SWAN, TUCSON 85712
 Jacques Lewin 545 N. Bunker Hill dr. 85710
 Terri Lappin 7222 E. Brooks Dr. 85730
 Brenda Lappin 7222 E. Brooks Dr. 85730
 Jean-Michel Motawer (DALLAS, TEXAS) UofA SUPO Box 10294 SANTA CRUZ 142
 Mark L. Jacobs (L.A.) UofA SUPO Box 10800 Apache 102
 Duran M. Lewis 2341 Calle Mesa Del Oro 85710
 Paul Lorenz 3722 E. Milton Rd. #7 85706
 Benson F. Long 2650 N. Miracle Mile 85705
 Judy Stowell Rt 7 Box 366 Q Tucson, Ariz 85706
 Don Stowell Rt 7 Box 366 Q Tucson, Arizona, U.S.A. 85706
 Bonnie Lynn Stowell Rt 7 Box 366 Q Tucson Ariz. zip 85706
 David Fogey 745 N. Richey Tucson Ariz 85716
 Duane Niehaus

Sunday, 14/15, 4497.

E. 2100-2330/8-9 - Fl Duane's place / 16" Cass / - Constantine, Ginette, Duane

M57, central, star
 M27, but standing

210847 SS Cyg 9.8-

210847. V1500 Cyg 15.5-

Monday, 15/16, 4498.

2000-2200/10 7-fm / SMB / Bonnie, Dan,
 and the Seib's ^{Pati, Billie,} ^{Doug, Eric} Penumbra, Saturn, 4" wood / genera.
 Spectacular glow in west, later found out
 it was missile launch from Vandenberg AFB.

SS Cyg 9.4-

M2 ~0000-0100/10-F/JMB/4" F4, Penumbra/

CN3 Oh 30m. -

Tuesday, 16/17, 4499.

EM. 2300-0020/7-f/Steward 2⁺Obs/21", 8"/

Jim Scottil

SS Cyg 8.7 -
RX And view

M2: 05 0415-0515/10-F/JMB/4" F/4 wood, Penumbra/

CN3 Oh 35m. -

- see p. 66)

Wednesday, 17/18, 4500,

E. 2000-2100 14-F/JMB/Saturn, Penumbra, Personal
+ Stowella general.
Mr Gene Weimer Rt 2 Box 15 Mtn, Home, Ar.

E2 ~2230-~2300/10-F/JMB/Saturn, Penumbra/ general.

DERALD + DENISE NYE 5604 Bowen Pl Longmont, Colo 80501

Thursday, 18/19. 4501

2330-0000 / 7-Fm / - / - / general / others From TAAA / int.

0430-0515? / 10-F / JMB / Wood scope, Penumbra / - / CN3.
CN3 0h 15m -

Friday, 19/20 4502

1945-2015 / 7-F / Gerry's place / - / Billy etc. / general

Saturday, 20/21 4503

2000-2130 / 7-Fm / JMF + south, walk / - / - / general.

0330-0540 / 8 10-F / JMB / Antares, H wood scope / - /

	⁰³⁵⁰	^{.868}	^{.876}	^{.883}	^{.889}	⁰³⁵⁵	⁰⁴⁰⁰	^{.875}	
NU Ori	71 -					HU	118 -		
V361	82 -					IY	120 -	VSO-I:	
V372	95 -					AN	117 -		
LP Ori	96 -					NP	122 -		
IU	97 -					AH			
MX	103 -					V360			
NV	97 -					H6	10.9 -		
KS	9902 -					NQ			
I	100					0.41619 T Tau	10.4 -		
2	90 -					V351 Ori	8.5 -		

SS Cyg 95 -

CN3 0h 50m E -

Sunday, 21/22 4504
1930-2100 / 7-fm / JMB / Judy, Dan, Bonny / instrument.

Syncom IV - generally good
Mercury - Fainter images, but good defⁿ.
Virgo - almost same as Jernac 2, see Jernac 2
Cassiopeia - cleanest centre of field
Jernac 2 - not as good centre, perhaps a bit better edges than Co.

Cassiopeia has by far sharpest centre of field. + brightest images. Also showed M13 as a cluster slightly more distinctly than did Virgo

0440-0525 / 10+ f / JMB / Cassiopeia, ^{Antares} Penumbra / -1

CN3: 0^h 30^m E. -

Monday, 22/23 4505

05 E. ~2300-~2315 / 7-fm / JMB / Antares, Penumbra / ~~CA~~ general.

M2. 0455-0525 / 8-3-fm / JMB / Antares, Penumbra / CN3.

CN3 0^h 10^m E w. Antares. -

Tuesday, 23/24 4506

22 M. 0100-0125 / 7-fm / JMB / Antares, Wolf 359, Penumbra /
-1 good views through Wolf 359.

23 M. 0100-0200 / 7-fm / JMB / Wolf 359, Antares / M42
Moon.

VSO-I: SS Cyg II. / -

Thursday, 24/25, 4508.

Cloudy with thunderstorms.

Friday, 26/27, 4509.

4M 0030-0130/7-3-fm/South/-/-/general.

Saturday, 27/28, 4510.

5S 1300-1330/10-f/5MB/

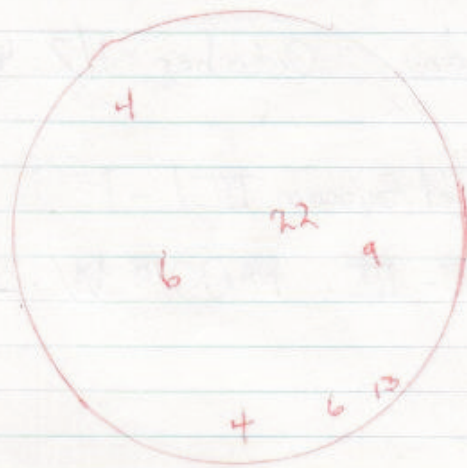
Penumbra/Danny/

SSII:

G 7

S 64

R 134



1320

6E2. 1900-2130/10-f to 2/South site/Syncom III/Dan/
CN-3: 1^h 25^m W. -

Sunday, 28/29, 4511.

7 E. 1910-1950/10-f/JMB/Virgo/-1
CN3: 0^h 30^m W. -

Monday, 29/30, 4512.

28E. 1900-1955/10-f/ / South/Syncom 3/
CN3: 0^h 30^m W. -

29MP2 0130~--0135/8-fml JMF/-/-/ CN5. Dome.

Tuesday, 30/31, 4513.8

30SP 1200-1205/10-f/JMB/Penumbral-/moon.

31E2 2310-2355/10+ / JMB/Penumbra and Virgo/-/M31 33
Db CI etc!

VSO-I:

213843 SS Cyg. 11.7 -

021558 S Persei 9.7 -

Wednesday, October 1/2, 4514.

2 E. 1910-2050/10-f/South site/Syncom III/-1
CN-III: 1^h 00^m W. -

ori	.913	.823
NUOF	1230	1245
- NUOn	73-	72-
- V372	80-	79 ✓
V361	96	95 -
LP	94	93 -
U	97	96 -
MX	102	103 -
NV	97	96 -
KS	103	103 -
T	101	97 -
#2	91	92 -

OCTOBER.

HD	118	119 -
N	121	122 -
AN	122	119 -
MR	118	118 -
NP	129	129 -
VI	129	129 -
V360	124	124 -
#6/AB	197	197 -

NP 125 -

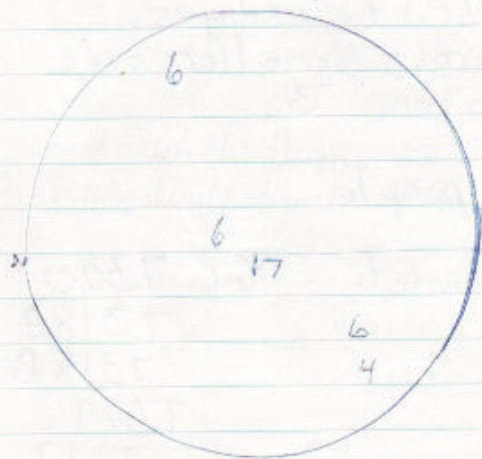
29 variables.

33 M2.

0000-0100/10-F/3MB/Penumbra, Spica/-1

VSO-I: see above.

Thursday, 2/3, 4515.



345.

1530-1545/10-F/3MB/Penumbra/-/SS2.

5E2 1910-1925/6-F/ Flandrau Planetarium Observatory /
16" - Jim Scotti, others / Short look at M13.

5E3 2215-2230/7-f/FPO/ 16" / Jim /

VSO-I

213843 SS Cygni 11.7. - | var = 30

Friday, 3/4, 4516

75. 1000-1115. /10-f/JMB/inside/all telescopes/ Jackie James,
+ camera man from Channel 13. / also Judy / taping
in + outside for news feature.

8E2. 1900-1930/10-f/Southside/ Syncom 3 / - / Discovery
of Nova 1980 - the great supernova that turned
out to be Mars. Uranus seen?? also nearby.

9E3 2000-2030/10-f/JMB/Spica/ Bonnie /

VSO-I:

4516.6 SS Cyg 8.3 - | var = 31

Saturday, 4/5, 4517.

40EM. 2000-0230/10-f/Echo Valley Observatory / +
2 16" telescopes.
several smaller ones.
Syncom 3.

TAAA people.

Saw Stephan's Quintet: NGC 7320:
7318A } mag 14.8
7318B }
7319 13.7
7317 15.3

+ M78, + others.

VSO-I:

210847 V1500 Cyg 15.5- | var = 32

Sunday, 5/6, 4518.

0015-0030/10-F/3MB/Penumbra/-1 M45!

Monday, 6/7, 4519.

W 1745-0530/11-F/Kitt Peak National Observatory/

11" F/4

84-inch (through live TV imaging to ~20" m)

Syncom-3

Little Joe as prime inst.

11" ref F/4

Little Schmidt, Burrell Schmidt

Sunset, soft green flash.

Mars, ? Uranus

Dean Kattleson.

(two atlases
tend to confirm
sighting)

160710 DN Her 12.1 -

RS Oph 12.6 -

SS Cyg 11.7 -

3 var = 35

2130-2230

84-inch M1-80

BD +40° 4032

BD +28° 42--

Me 2-2

NGC 7009

[8.5 mag]

w/34

HU 1-2 (planetary)

NGC-7469 - a beautiful little Seyfert [mag 13.5]

with Dean

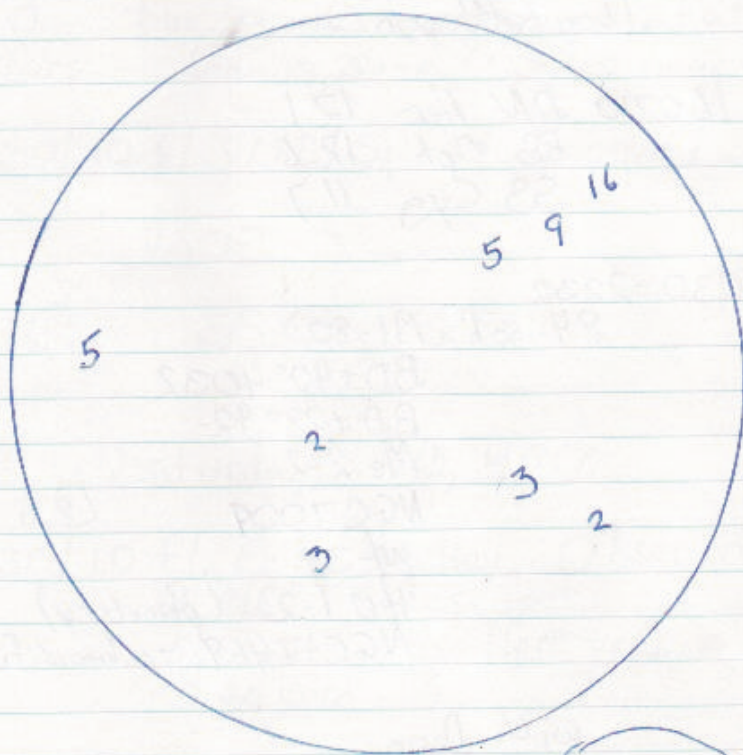
10:30-11:00 Night lunch with Charles Slaughter

	879	903	928
ori	205	0240	0315
-NU	72-	71-	72-
-V362	80-	81-	81-
V361	95-	95-	96-
-LP	95-	94-	94-
IU	96	97	97
MX		104	102
NV		96	99
KS		104	104
T		98	98
br.# 2		89	89

25var = 60

Tuesday, 7/8, 4520.

1325-1345 / 10-F / KPN6 / Visitor telescope, Razdow monitor / - / SS2.



O = plage
 - = filament
 very rough sketch
 prominence

V2 1845-0545 / 10-f / JMB, South site /
Syncom 3, Spica, Saturn, Echo & Syncom IV, Isis
+ Ranger.

VSO-I-

4520.7 SS Cyg 11.7 -
RCrB 646.3 -
TCrB 9.8 -
RS Oph 12.2 -

5 Var = 65

CN-I

2135 40
23
23a } 6
16
31

CN-III evening hunt
1 h 00m W.

CN-V

2305

140 var = 205 700

	.819	.826 Dome	3	.840	.847	.854	.861
	1240	1250	1300 ⁸³³	1310	1320	1330	1340-
VU	70-	71-	71-	72-	71-	71-	71-
V372	79-	79-	79-	79-	81(1)-	81-	80-
V361	96-	95-	96-	95-	96-	95-	94-
LP	95-	94-	94-	93-	96(!?)	95-	95-
10	96-	96-	97-	96-	96-	96-	97-
MX	103-	103-	102-	102-	102-	102-	103-
MV	97-	98-	97-	98-	97-	98-	97-
KS	103-	104-	104-	104-	103-	104-	103-
T	97-	97-	97-	97-	98-	97-	96-
2	89-	89-	90-	89-	89-	89-	89-
HU	119-	119-	120-	119-	118-	119-	120-
14	121-	121-	122-	121-	122-	121-	122-
AN	121-	119-	119-	120-	121-	120-	120-
MR	120-	120-	119-	120-	120-	119-	119-
NP	125-	125-	127(!)	127-	126-	126-	124(!)
AA	128-	128-	129-	129-	129-	129-	129-
AI	127 13.4 -	134-	132(!)	132-	131-	131-	131-
V360	1247 -	129-	130-	130-	130-	131-	130-
10	124-	126-	126-	125-	125-	124-	126-
#E	106-	107-	106-	107-	108-	106-	107-

	.895	.896	.938	.940	.967
	0200	0230	0330	0400-	0410
- NU Ori	71-	72-	70-	72-	72-
- V372	79-	80-	79-	80-	80-
- V361	96-	95-	95-	95-	95-
LP	95-	95-	94-	95-	96-
- IU	96-	96-	96-	97-	97-
- MX	102-	103-	103-	102-	103-
- NV	98-	97-	97-	97-	97-
- KS	103-	102-	103-	103-	103-
- T	97-	97-	97-	97-	97-
- 2	88-	89-	89-	89-	90-
- HU	119-	119-	119-	119-	119-
- IV	122-	121-	121-	121-	120-
- AN	119-	120-	120-	120-	120-
- MR	120-	120-	118(1)-	119-	120-
- NP	126-	124-	126(1)-	126-	127-
- AH	129-	129-	130-	129-	129-
- AI	132-	132-	133-	132-	132-
- V360	130-	130-	131-	129-	129-
- NP	10424-	125-	125-	127-	125-
- 6	107-	107-	108-	107-	108-

100 var = 305

0300: look through Isis.

(245 var tonight)

0415, all scopes put to bed, Little Joe taken out for a comet hunt.

CN III morning hunt

0h 45m E.-

A fine session.

Wed, 8/9, 4521.

79
10 80

2310-2330/6-F/Ron Ferdie's house/-/ Ron, Gary, ^{Duane}~~Dwayne~~/general.

12 0030-0130/10-3-F/JMB/ Penumbra, Spical - / VSO-I:

	.819	.826	.833	.840	.847
	1240	1250	1300	1310	1320
- NU Ori	71-	70-	70-	71-	71-
- V372	80-	81-	81-	81-	80-
- V361	94-	95-	94-	95-	94-
- LP	96-	96-	96-	96-	96-
- IU	97-	97-	96-	97-	97-
- MX	102-	102-	103-	103-	102-
- NV	96-	96-	97-	97-	97-
- KS	103-	103-	104-	103-	103-
- T	98-	98 ✓	97-	97-	97-
- 2	89-	89-	89-	89-	89-

- HU	118-	119-	118-	118-	119-
- LY	122-	123-	121-	122-	121-
- AN	120-	122-	121-	122-	121-
- MR	119-	120-	120-	119-	121-
- NP	125-	124-	126-	124-	123-
- AH	130-	130-	131-	130-	130-
- AI	133-	133-	133-	133-	132-
- V360	128-	129-	124-	130-	129-
- NP	124-	123-	124-	124-	124-
- 6	108-	108-	108-	108-	107-

CN5 Dome 3 1315.

054907 α Ori 0.9
 η Gem 3.7

102 var. = 407

Begins: 1250

Conditions: 10

Ends: 2330

Places: South site
JMB

Instruments:
Syncom 3
Maia

others: none

CN3 2h 40m W.-

with Syncom 3

and
Pinchas Zuckerman (conductor and soloist)
with

The St. Paul Chamber Orchestra

in

a "live" radio performance

of

Mozart's Fifth_(?) Violin Concerto

and his

"Jupiter" Symphony

Since Jupiter is not up, this is not a map of Jupiter

o o o

AND

CN-5: Dome: 3

ALSO

CN-I 40
23
23a } 6
16
3

4522.6 VSO-I: RCrB 6.3 -
TCrB 10.0 -
RS Oph 12.2 -

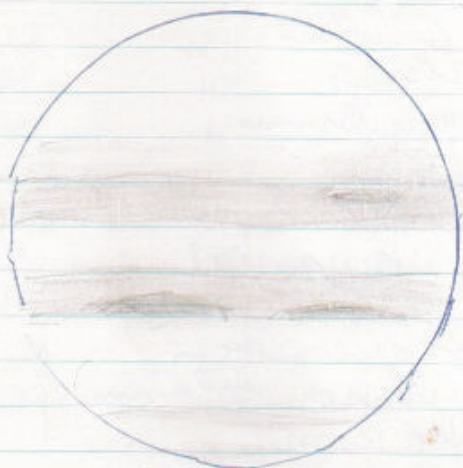
3 var = 410

← this page shows the depth of my fatigue, causing premature "observational senility" - + a decision to cut short a good session.

CN3 0h35m E-

3M2

0445-0600/10-F/JMB/ Virgo, Saturn -1 CN-3. ↑ LPO-I ↓



1250 UT

Jupiter through Leslie C. Peltier Observatory Telescope and with Herbert von Karajan and the Orchestre Philharmonique de Berlin

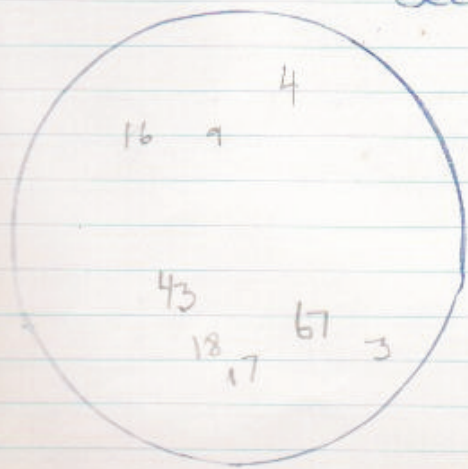


• Io

Granymede Europa Callisto

1245 UT

Seeing 1 or 2 because Jupiter is very low, having risen within 20~ minutes in the east.



Friday, October 10/11, 4523.

-1340-1355/10-F/JMB/ Penum bra -1/SS2

G = 8
S =
R =

4250AN2 1810-0610, 13-10-F / JMB / Saturn, Penumbra,

Spica | - Bonnie Stowell

Judy Stowell

Ann Schmitzler

Mary Barton

Joyce Anderson

Bartholomew Saccyker

George M. Barto

Luis Moore

Larane White

Jackie Skenter

Luis Pyle

Sophie Andree

Adla. Flukes

Stanley & Mary Brown

~~Harriet Johnson~~

Eric Johnson

Bevauld Johnson

Carolyn Cook

Myrtle Piercey

Knut Knutson + Family

Mary Johnson

Knut Sigurd

Mike Magee

Paul Lorenz

	.847	.861	.868	.875	.882	
	0120	0140	0150	0200	0210	10 80
-VU Ori	72 -	72 -	71 -	71 -	72 -	
-V372	81 -	81 -	80 -	80 -	81 -	
-V361 -	94 -	95 -	95 -	96 -	96 -	
-LP -	96 -	96 -	96 -	96 -	96 -	
-IU	96 -	96 -	96 -	96 -	97 -	
-MY	103 -	103 -	103 -	103 -	103 -	
-NV	98 -	98 -	98 -	89 -	98 -	
-KS	104 -	104 -	104 -	104 -	104 -	
T	97 -	97 -	97 -	97 -	97 -	
-2	89 -	90 -	90 -	90 -	89 -	
-HU	118 -	119 -	118 -	119 -	119 -	
-LY	122 -	121 -	120 -	122 -	121 -	
-AN	118 -	118 -	119 -	120 -	119 -	
-MAR	119 -	120 -	120 -	121 -	120 -	
-NP	123 -	124 -	126 -	124 -	123 -	
-EAH	130 -	129 -	129 -	130 -	130 -	
-AI	132 -	132 -	133 -	131 -	131 -	
-V30	130 -	129 -	130 -	130 -	128 -	
-NQ	123 -	125 -	123 -	124 -	124 -	
-E	107 -	108 -	108 -	107 -	108 -	100 var = 507

NGC 1316, 7
 1055
 1073 (SB)

1084 in Eridanus, a nice easy-to-see spiral
 2264, Hubble's Variable Neb.
 M35 + NGC 25 2158
 2237, Rosette

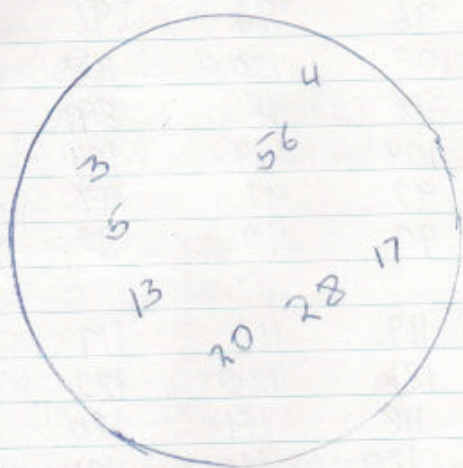
M77, a Seyfert galaxy
 New Comets I saw tonight:

- (Paul found) P/Stephan-Otterma, 1867-I
- (I found) ENCKE'S COMET - 11.5? M_v (1786I)
- (Paul found) P/Tuttle 1790 II
 in twelve inch
 than Regulus.

CN3 @ 45^m E, -

Saturday, 11/12 4524

515 1110-1125/10-F/JMB/ Penumbra - ISS2.



windy 1120

52 EP2 1855-1905/9-F/JMF/ Gary, others/ -/ general. "Thin" cres. moon.

53 EM3. 1930-0230/10+-F/ Davidson Ranch, Santa Rita Mtns/
4"rr, 6"rr, 6"rr, Syncom 3 (5"rr), "Spacing" - 10"rl.

Perseus, 10"rl. →
TAAA Session.

CN III 0h 90m W -
(= 1h 30m W!)

4524.8 VSO-I RGB 6.4 -
TGB 10.0
SSCyg 12.0 -
Sfer 9.4 -
Mira 4.0 -

5 var = 512.

"Bill Costinifit"
Dave Eschhofen,
owner of Spacing
Bany Hall -
Krishti Hall

T Tauri Log

1050 10.5

1330 10.4

1400 10.4

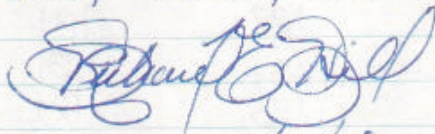
4524	.799	.806	.813	.819	.826	.833	.840	.854	.868
	1210	1220	1230	1240	1250	1300	1310	1330	1350
- NU Ori	70	71	71	72	71	72	71	72	72
- V3613/2 Ori	80	80	80	80	80	81	80	81	80
- V361 Ori	96	95	95	96	95	96	96	96	96
- LP	96	96	96	96	96	96	96	96	96
- IU	97	96	96	96	96	96	96	97	96
- MX	102	102	102	103	103	102	103	102	102
- MV	97	100	98	98	97	97	98	98	98
- KS	103	103	104	104	104	103	103	102	104
- T	100	99	97	97	97	98	98	98	98
- Z	89	89	89	90	89	88	89	89	89

- HU	119	118	119
- IY	122	123	121
- AN	119	120	120
- NP	123	123	122
- #6	108	108	108

108 var = 62

Sunday, 12/13, 4525.

3549 1730-1800/2-F/JMB/ Saturn, penumbra, Minnowbrook, Spica /
View of KPNO.



Robert D. Miller

Robert D. Miller

35571. 0315-0415/3-F-lightning/JMB/ Cassiopeia, others / - / put up
possible rain.

CN 3 0h05m S. -

Monday, 13/14, 4526.

E. 1930-2030/9-F/3MB/SATURN-LCPO, PENUMBRA, SPICA/
July, Dan + Bonnie Stowell/ M13, 57, 31, BCyg, etc.

VSO-I:

4526.86 RCrB 6.2 -

TGB 10.0 -

RS Oph 12.2 -

	^{.833} 0100	^{.840} 0110	^{.847} 0120	^{.854} 0130	3 var = 623. ^{.861} 0140
- NU Ori	72	71	70	71	71
- V372	81 -	80 -	81 -	81 -	80 -
- V361	95 -	95 -	95 -	95 -	96 -
- LP	96 -	96 -	96 -	95 -	96 -
- IU -	96 -	97 -	96 -	97 -	97 -
- MX	103 -	103 -	103 -	103 -	103 -
- NV	97 -	98 -	98 -	98 -	98 -
- KS	104 -	104 -	104 -	103 -	102 -
- I	98 -	98 -	97 -	97 -	98 -
- 2 Ori	89 -	89 -	90 -	90 -	89 -
- HU	119 -	117 -	118 -	117 -	117 -
- IV	121 -	121 -	121 -	121 -	121 -
- AN	120 -	121 -	121 -	122 -	120 -
- MR	121 -	121 -	121 -	120 -	121 -
- NP	124 -	124 -	124 -	124 -	123 -
- AH	131 -	131 -	130 -	129 -	129 -
- AI	131 -	132 -	131 -	132 -	132 -
- V360	130 -	131 -	131 -	130 -	131 -
- NQ	126 -	125 -	126 -	125 -	127 -
- 6	108 -	107 -	108 -	108 -	108 -

4526.9 213843 SSCyg 12.1 -

10/var = 724

CN5 0145 Dome 3.

7MR 0410-0420/3-F/3MB/-/- general.

Tuesday, 14/15, 4527.

0430-0530/10-F, windy + cold^(55°F) / JMB/Cassiopeia/-1

CN3 Oh 45^m E

Wednesday, 15/16, 4528.

0000-0005/9-F/I-10 near Houghton /-/-1 bright
? sporadic bolide.

0020-0035/3-F/JMB/Penumbra, Spica/-1

SS Cyg 11.7-

Thursday, 16/17, 4529.

1800-1815/3-F/JMB/Penumbral-1 moon.

12	0015-0130	.819	.826	.833	.840	.847
	0040		0050	0100	0110	0120
-NU	70		70	70	71	71
-V372	80		80	81	80	81
-V361	94		94	94	95	95
-LP	96		96	96	96	96
-IU	96		96	97	97	96
-MY	102		103	103	103	102
-NV	97		98	99	99	98
-KS	103		102	103	103	102
-T	101		100	100	98(?)	99
-2	89		90	90	90	89
-HU	117		117	118	117	119
-IY	122		121	121	122	121
-AN	122		120	120	122	120
-MR	121		119	119	121	120
-NP	124		123	124	125	123
-AH	131		131	130	129	129
-AI	134		134	132	131	131
-V360	132		131	130	130	130
-NQ	125		126	126	124	126
-6	108		108	108	108	108

4529.9 SS Cyg 12.1-

10/var = 825.

Friday, 17/18, 4530

1645-1700/3-F/JMB/P - Penumbra, ♄ Saturn, Minnowbrook/Sun, Mo

Richard Berry 10-17-80

E. 130-2000/7-F/North end/-/-/general. (see below to next session)

	0340	350	400	410	420
	.945	.952	.960	.967	.974
-NU	71	71	71	72	71 ✓
V372	80-	81-	81-	81-	82-
-V361	95-	96-	96-	96-	96-
-LP	96-	96-	96-	96-	96-
-10	97-	97-	97-	96-	97-
-MX	103-	103-	102-	102-	102-
-NV	99-	98-	98-	98-	98-
(3) -KS	103-	104-	103-	104-	103-
-1	98-	97-	98-	97-	97-
-2	90-	90-	90-	90-	90-

-HU	117-	117-	117-	117-	117-	} Venus } Saturn } Jupiter } Saturn's rings
-1Y	121-	121-	120-	120-	121-	
-AN	120-	121-	120-	120-	120-	
-MR	121-	121-	120-	121-	122-	
-NP	124-	123-	124-	123-	123-	
-AH	128-	129-	130-	130-	130-	
-AI	131-	122-	131-	132-	132-	
-V360	131-	131-	131-	131-	131-	
-M	125-	124-	124-	124-	125-	
-#6	108-	108-	108-	108-	108-	

100 var = 925.

CN3: 01400^m E. -

~2130-~2145/7-F/near I-19, dirt road in Tucson/-/-/general.

0325-0600/7-10-F/JMB/ Spica, ♄ Saturn, Penumbra, Minnowbrook,
Saturn/-/-SS VSO-I: see above for 100 Orion Var.
CN3: see above
LPO-I: see above.

Saturday, 18/19, 4531

1500-1700/3-F/JMB/Bonnie, Judy, Danny / Penumbra, Saturn/
SS2



G	4
S	57
R	97

2100-2200/1-fm/JMB/Danny/Saturn, Penumbra, Spica/M33, D6C//
Moon.

V50-I

SS Cyg 12.0-

"Jamaica Obs. Family Night!" | var = 926

.862 .875

0150 0200

- NV	72 ✓	71 -
V372	80 -	80 -
V361	95 -	95 -
- LP	96 -	96 -
- IU	96 -	96 -
- MX	103 -	103 -
- NV	98 -	98 -
- KS	103 -	104 -
- T	99 -	99 -
- 2	89 -	89 -

- HU	117 -
- IY	122 -
- AN	121 -
- MR	122 -
- NP	123 -
- AH	131 -
- AI	132 -
- V360	130 -
- ND	124 -
- 6	108 -

0130 -

0230/10-3-F/3MB/ Penumbra, Spica / - / VSO-I:

30 var = 955.

+R

Sunday, 19/20, 4532.

1. 1200-1245 pm / 7-Fm/3MB/ Spica, Penumbra / 6 VSO-I:
See p. 91.

	.806	.813	.819
	1220	1230	1240
- NU Ori	71 ✓	72 ✓	71 ✓
- V372	80 -	81 -	80 -
- V361	95 -	95 -	95 -
- LP	95 -	96 -	96 -
- IU	97 -	96 -	96 -
- MX	103 -	103 -	103 -
- NV	898 -	97 -	98 -
- KS	103 -	102 -	103 -
- T	101 -	101 -	101 -
- 2	89 -	89 -	88 -
- HU	118 -	117 -	117 -
- IV	121 -	121 -	122 -
- AN	121 -	122 -	120 -
- MR	120 -	121 -	120 -
- NP	124 -	123 -	25 -
- 6	108 -	107 -	108 -

48 var =

Monday, 20/21, 4533.8

8715. 1100-1600/10-3-F/MMTO, MHO/Rick Berry, Dan Brocius
 & Test session. We were able to crawl over MMT, sitting
 guidescope mirror cover!
 50 var = 1054.

		.813	.819	.826	
		1230	1240	1250	
- HU	NU Ori	72 ✓	70 ✓	71 ✓	SS Cyg 12.0
- IV	V372	81 -	80 -	80 -	Δ Ori 0.9
	-361	95 -	94 -	94 -	γ Gem 3.4
P21	-LP	96 -	96 -	96 -	Mira 7.2
opp ~2005/	IU	98 -	97 -	97 -	μ Cep 4.2
mpell St	MX	102 -	103 -	103 -	
coa's)/ Rick	NV	100 -	99 -	98 -	
ry/-general	KS	103 -	103 -	104 -	
mag seen.	1	101	101	101	
M2.	-2	89 -	89 -	88 -	
020-000/	-HU	117 -	117 -	118 -	
-Fm/SMA	-IV	123 -	123 -	124 -	
ica, Penumbra	AN	121 -	120 -	120 -	
SO I:	-MPMR	119 -	119 -	119 -	
	-#6	109 -	109 -	109 -	

Tuesday, 21/22, 4534.

5. 1100-1200/10-f/JMB/Penumbra / Sam Negri, Arizona Republic / SS-2,



Sam Negri

2 1945-2300/7-fm/Flandrau P/ Perseus, Apollo, 6", 10?" r/l,
6" r/l / TAAA, Star Party - Jim Scotti, Derald Nye,
R. Willey, Lonny Baker, Cathi Connor.

Wednesday, 22/23, 4535.

E. 17250-1820/7-fm/Tucson [Pepperoni Rest.] / Perseus /
Billy, Debbie, Audrey, Gerry / moon.

E2. 1850-1905/7-fm/ see above, 4876/Billy / ~~Perseus~~ Perseus / moon w.
finder, no mount.

E3 1930-2100/8-fm/Camp Cooper/ 4-5th grade, Bob Miller/
Perseus, Apollo / Moon, β Cyg, & Aur. VSO-I. \rightarrow

P4 2300 ~ ~ 2305/7-fm/Tucson, Cocoa's Rest. / - / Bob Miller/
general.

7939
 1833 1840 1847 1855
 0100 0110 0120 0130


NUOr	72 -	72 -	72 -	72 -
V372	80 -	80 -	81 -	80 -
V311	94 -	94 -	93 -	94 -
LP	96 -	96 -	96 -	96 -
IU	98 -	98 -	98 -	97 -
MX	102 -	102 -	102 -	102 -
MV	98 -	100 -	100 -	101 -
KS	103 -	103 -	103 -	103 -
T	102 -	102 -	102 -	102 -
Z	89 -	88 -	89 -	88 -
HU		117 -	118 -	
AN		119 -	119 -	
MR		120 -	119 -	
#6		108 -	109 -	

15. 0030-0145 / 7-fm / JMF, JMB / Apollo, Penumbra, Spica
 - | VSO-I. 48 var = 1103

Thursday, 23/24, 4536.

1600-1800 / 8-10-f / JMB, end of Carey St. / Little Joe, S,
 Minnowbrook, Saturn, Spica, others.

photographs.

 (Tom Ives) 2250 El Moraga, Tucson, AZ.
 - ITS ALWAYS WONDERFUL TO MEET "WIZARDS" -

E2. 1830-1845 / 8-fm / JMB / Penumbra, Saturn / Tom Ives / B Cyg.

Cyg (11.8 4535.8 Ivan = 1055 + ↗

3. 1900-1915/7-fm | JMB/ Penumbra, Syncom 3 repaint (3rd coat) /-/
Moon.

4. 2140-2150/7-fm | JMB/ Penumbra, Syncom 3 /- / moon.

5. 2305-2310/7-fm | JMB/ Penumbra /- / moon.

6. 2355-0005/7-fm | JMB/ Penumbra /- / moon.

7. 0030-01345/8 7-fm | South site to JMF, walk /- / general.

0215-0255/7-fm | JMB/ Penumbra, Spica /- / VSO-I:

,889/420 .896/430 .903/440 .910/450

- NU Ori	71 -	71 -	72 -	72 -
- V372	81 -	80 -	80 -	80 -
- V361	94 -	94 -	94 -	94 -
- LP	96 -	96 -	96 -	96 -
- IU	97 -	97 -	97 -	97 -
- MX	102 -	103 -	102 -	102 -
- NV	89 -	100 -	100 -	100 -
- KS	103 -	103 -	103 -	103 -
- T	102 -	102 -	101 -	101 -
- 2	98 -	98 -	98 -	98 -
- HU	118 -	118 -	119 -	119 -
- AN	119 -	118 -	119 -	118 -
- #6	108 -	108 -	108 -	107 -
H1619 T Tau	104 -	103 -	104 -	104 -

1 Orionid meteor

Moon
Db cl.

56 var = 1159

Friday, 24/25, 4537.

10 80

95

1900-2245/7-fm/FP/6"Cass, 6"rl, 5"rr, Mintaka,
Perseus | TARA | Star Party

P2. 0115-0120/7-fm/South site/ Jim Scott/-/general.

0125-0230 18-fm/JMB/ Spica, Penumbra/ Jim/

0130 SS Cyg. 10.6 -

0150 " 10.5 -

0150 0200 0210 02205

-NU Ori .868 72 .875 72 .882 72 -SSCyg 10.6

V372 Ori 81 - 81 - 80 -

-V361 95 - 94 - 95 -

-LP 96 - 96 - 96 -

-IU 97 - 98 - 97 -

-MX 103 - 103 - 103 -

-NV 100 - 100 - 100 -

-KS 104 - 104 - 104 -

-T 102 - 102 - 102 -

-2 98 - 88 - 88 -

-HU 117 - 118 - 118 -

-AN 120 - 119 - 118 -

-6 119 - 108 - 108 -

-041619 T Euv - 104 - 105 - 105 -

45 var = 1204.

Saturday, 25/26, 4538.

S. ~12.5-1230~ / 3-F / Santa Ritas / Virgo / Jim Scotti,
Judy, Bonnie / View of MMT.

M2-0315 - ~0330 / 2-F / JMB / Penumbra / - / moon.

3. see before 4893. 1900-1930 / 10-F / 3~~4~~ South site /
SYNCOM 3 /.

CN 3 Oh 15m W.-

Sunday, 26/27, 4539.

E 1830-1845 / 8-F / JMB / Spica / - / VSO-I: see below.

EP2. 1950-1955 / 10-F / Stowell Res. / - / Bob Miller,
Jim Scotti / general.

13 0030-0110 / 8-Fm / JMB / Penumbra, Spica / VSO-I: see p 97.

1830 4539.

SS Cyg 8.7 -

|vars

4539

.861

.868

.875

10 80

97

0140

0150

0200

On			
-NU	72	71	72
372	81 -	80 -	80 -
V361	94 -	94 -	94 -
-LP	95 -	96 -	96 -
-IU	96 -	96 -	97 -
-MX	102 -	102 103 -	103 -
-NV	100 -	100 100 -	100 -
-KS	103 -	103 -	103 -
-T	101 -	101 -	102 -
-2	89 -	89 -	89 -

Session 4896M2 conc'd.

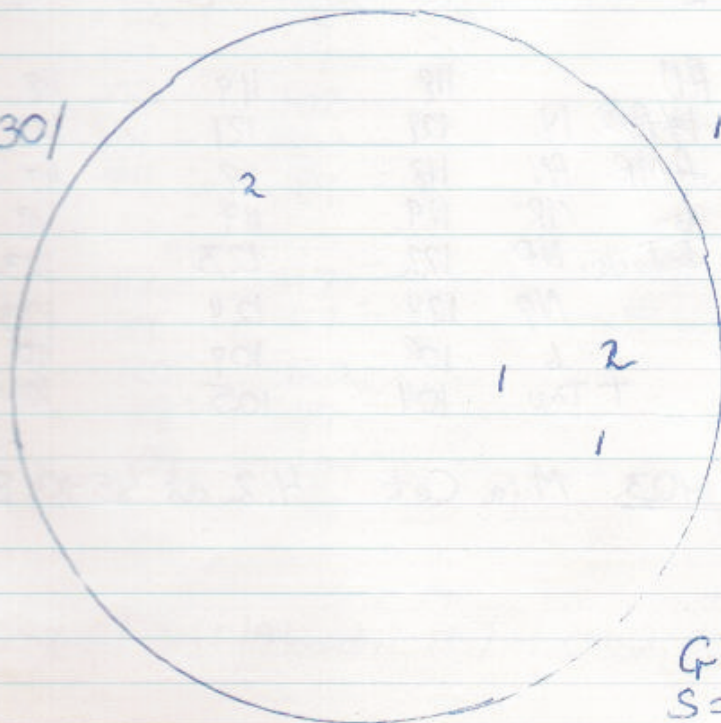
HU	112 -	112 -	117 -
-AN	119 -	119 -	119 -
-MR	118 -	118 -	118 -
-6	118 -	119 -	118 -
T Tau	105 -	104 -	105 -

0154 SS Cyg 8.3 - 46 var = 1251.

1P4 0205-0215/8-F/JMF/Alouette 2/-/moon.

Monday, 27/28, 4540.

1315-1330/



10-8-F/Schumacher School - Voyager / class of 3rd graders /

SS 2.

very rough sketch, from memory.

G=4
S=6

R=46

22 1840-1850/2-F/JMB/-Spica/-/ general view of Agl.

3. 2000-2030/3-F/JMB/ Penumbra, Spica/Bonnie + Judy/
VSO-I:

4540.6	W	Cyg	6.3 -
4540.6	SS	Cyg	8.3 -
4540.6	RS	Oph	12.2 -

3 var = 1254.

4. 2330-0125 18-F/3 walk to south site, JMB/
penumbra, Spica/-/ CNS Dome 3.

- in memory of Dr. Caplan -
.826 1250.833 1300.840 1310.

- NU Ori	72	71 (?)	71
- V372 Ori	81 -	80 (-)	81 -
- V361	95 -	95 -	94 -
- LP	97 -	96 -	96 -
- IU	97 -	98 -	97 -
- MX	103 -	103 -	102 -
- NV	99 -	98 -	98 -
- KS	103 -	102 -	102 -
- T	101 -	101 -	102 -
- 2	88 -	89 -	89 -

55 var = 1309

- HU	118 -	119 -	118 -
- HA IV	121	121	121
- A MR AV	118 -	118 -	117 -
- 6 MR	119 -	119 -	118 -
- T Tauri NP	122 -	123 -	123 -
- NP	124 -	124 -	123 -
- 6	108 -	109 -	110 -
- T Tau	104 -	105 -	104 -

021403 Mira Cet 4.2 at 4540.8 -

Tuesday, 28/29, 4541.

- EP 0935-0940 / 8-F / Corbett School / Voyager / - / Moon
- S2 1430-1445 / 8-F / Manzanita School / Voyager / ~25 children, Sandy Rubin / Sun.
- EP3 1850-1855 / ~~9-F~~ 7-F / chez Bob Miller / - / Bob / general view.
- E4 1910-2040 / 8-F / Manzanita School / Andromeda, ^{1 small inst.} 4" Tasco r / Bob Miller, students and parents / M31, ~~A~~ DBCI, ~~2~~ Lyr, B Cyg, etc.
- E5 2110-2130 / 7-F / Flandrau / 16" r / others / VSO-I: M31.

4541.7 SSCyg 8.7 - 1 var = 1310

TEM6 2355-0035 / 9-Fm / JMB / ^{Spica} Penumbra / - / VSO-I:

.792 0000, 799 0010 00 20 .806

Nuon	71 -	71 -	71 -
V372	80 -	80 -	80 -
V361	94 -	95 -	94 -
-LP	96 -	96 -	96 -
-10	97 -	97 -	96 -
-MX	103 -	103 -	102 -
-NV	100 -	100 -	99 -
-KS	103 -	103 -	102 -
-T	101 -	101 -	100 -
-2	89 -	89 -	89 -

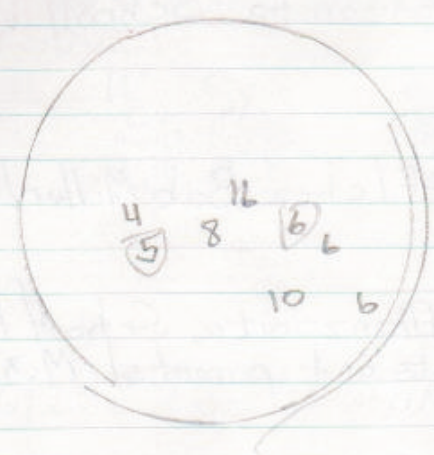
-HU	117 -	118 -	117 -
-AN	119 -	119 -	119 -
-MR	119 -	120 -	120 -
-E	118 -	118 -	119 -
41019 T Tav	104 -	104 -	104 -

45 var = 1355

7 0040-0050 / 8-F / JMF / Alouette II / - / M42, Rigel, Moon.

Wednesday, 29/30, 4542.

908895. ~ 1030 - ~ 1045 / 9-F / JMB / Penumbra / Judy / SS2



Q
S
R

	.826 1250	.833 0100	.840 0110
- NU on	72 ✓	71 ✓	71 ✓
- V372	80 -	82 -	82 -
- V361	94 -	95 -	96 -
- LP	95 -	95 -	96 -
- IU	97 -	97 -	97 -
- MX	102 -	102 -	102 -
- NV	97 -	97 -	97 -
- KS	103 -	102 -	103 -
- T	101 -	98 -	98 -
- 2	100 - 9.0 ?	100 - 9.0 ?	100 - 9.0? 46 var 140.
HU	119 -	119 -	118 -
-AN	119 -	119 -	119 -
-MR	119 -	119 -	118 -
-6	108 -	108 -	107 -
-041619 T Tau	125 -	104 -	125 -

12055 SSCyg 8.4 -

E. 1850-2000/10-F/South site/-Syncom 3/-/ 10 80
CN3 0h 30m -
~~#7~~

3- see p. 96.

2 2015-2030/10-F/South site again/Syncom 3/ check of object in CN3.

3 2100-2200/10-F/JMB/ Penumbra, ^{Spica} ~~Syncom 3~~/che
M57 Db Cl M31 M33, others. / Judy, Dan, Derald, Denise.

1 0040-0130/9-F/JMB/ Penumbra, ~~Syncom~~ Spica/-/
VSO-I: see p. 100.

5 0315-0320/7-?-F/above JMB/-/-/ Orionid meteor.

0530-0545 CST/7-F/plane, W of Dallas/-/-/ Venus-Jupiter conjunction, ~1° apart, Saturn.

SP 0640-0650 CST/8-F/Dallas Airport/-/ Sunrise.

Thursday, 30/31, 4543.

1610-1630/9-F on 7-F/Espousal Conference Centre, Waltham, Mass/-Mercury/-/ ground test 12.5 or + 15 RKE.

2 2200-2300/7-F-cold/ECC/Mercury/Mike Mattei, -others
[1 ? dead body - a surprise! - actually Jesus on the ground, but a fright!] / SS Cyg - 4543. 7 8.3. -

Friday, 31/32, 4544.

E. ~~0000~~ 2000-2130/7-F/ECC/Mercury/Peter Collins, R. Lynch, Peter Jedicke/-/ VSO-I: SS₁₁ Cyg - 4543. 6 8.3 - M45.

November.
Saturday 11/2, 4545.

EST

- 1/2. 0000-0045 / 3-2-F / ECC / Elizabeth Waagen, Steve McFaul,
Peter Jedicke / Mercury / M42, M45.
2. ~0245-0300~ / 3-F / ECC / Mercury / Janet Mattei, others / Moon
crescent with earthshine very pretty in wide-field, low power Mercury.
Sunday, 2/3 4546.
- P. 2105-2115 / only 7-F / plane betw. Pittsburgh +
New Orleans / - / general: Orion.
CST
- 1P2 ~0400-0410~ / 3-2-f / near motel, airport / - / Venus near
Saturn / also Jupiter.

Monday, 4547 3/4 New Orleans

- E. 2200-2220 / 3-2-F / Carol Apts, N.O. / Mercury / - / general. M45.
Tuesday 4/5, 4548 New Orleans.
- 2: 1920-1935 / 7-F / Carol Apts / - / Grandma /
Altair, Vega, Deneb.
- P3 ~2150-2200~ / clear → 7-F / Carol Apts / Mercury / - / general. Low power
(parking lot)
- P4 ~2210-2220~ / 7-F / New Orleans / Mercury / - / general. Low power.
- EP5 2300-2310 / 7-F / New Orleans / Mercury / - / general. Low power
sweeps
- EP6 2340-0005 / 7-F / New Orleans / Mercury / - / general. Orion. LFsweep
- 17 0010-0030 / 7-F / Carol Apts / Mercury / - / M42, M45.
Low power sweeps. (swimming pool)

Mira 021403 o Cet 4.5.
~~4547~~
4547.8 | var: .

Wednesday, 7/5/6, 4549.

1255-1310 / 7-F / Fairchild Jr. High School / MERCURY /
Carol Kushner + her 8th grade LD class. / Sun.

2 ~1900-~1930 / 7-F / 5455 Bellaire / MERCURY / Johnny, Barbara,
Chick, Carol, Beulah, Jack, Brian and especially
Lorrie + Grandma.

Prime object for L+G:

Deneb.

5 2140-2215 / 7-F / Carol Apts / MERCURY / - / Final session
here. M45.

Thursday, 6/7, 4550

E. 2240-2305 / ~~12~~ 3-F / JMB / Mercury / - / M42-45. No mt.

Friday, 7/8, 4551.

1445-1830 / 10-f / JMB / Penumbra / Spica's Observatory const. Sun
~1825 Twt Hzn. Sunset. Greenf.

2 1900-1910 / 10-f / JMB / - / - / general.

3 1940-~1945 / 10-f / Houghton Rd / - / Judy, Bonny, Danny / \$M45. nakaleje

2220-2305 / 10-f / JMB / Saturn, new LCPO sign / - see above / Vger /
general. Bob Cl

5 2340-2355 / 10-f / JMB / - / see above / general.

6 2350-0000 / 10-f / Stowell / - / see above / general.

7 0005-0030 / 10-f / JMB / Saturn, Penumbra / - /

8 0430-0600 / 10-f / JMB / CN 3

1500m E - with Cassiopeia

SATURDAY, 8/9, 4552

E 1400-1815/10-3-F/JMB/ Penumbra, Spica/ Den, Roy, Judy/
Construction of Jernac 2 station.

EM 1845-0225/13-10-F/JMB/ Spica, Jernac Field 2
Station - first light.

SS Cyg @ 10.6. - Ivan = 2

TAAA

Judy Stowell

Scott Henning

Ivian Lewis

Saturn
Penumbra
Spica
Perseus

Ellis Foots - tremendous dedication!

other telescopes

Norma Foots

Denise Mye

Karen Anderson

Joe & Marilyn Blankenship

Ralph Anderson

Dan A. Hall

Cristi Hall

Mike Magee

299-5822

Sunday, 9/10, 4553.

E 1700-2200/2-3-F/ Mount Hopkins Observatory/
Dan Brocius, others - MMT, Little Joe 1

First sighting of new Comet Meier, 1980P
with LJ.

2. 0000-0230/3-2-F/ Mount Hopkins Obs. / Dan^B, Ed 160-
inch Ridge Telescope/ galaxy.

3 ~0245 - ~0345/2-1-F/MHO/ MMT/ Dan, others/ -.

Monday, 10/11, 4554

S. 100-150/3-F/JMB/ Dr. Judy/ Penumbra/ observatory const.

12 0200 ~ 0020/10-F/JMB/ Spica/ -/ general viewing. (Vgr?)

Tuesday, 11/12, 4555

S. 1140-1210 / 7-f / Flandrau / - Telescope at Planetarium / Denny, Dick
Jim / Sun.

S2 1800-1650 / 3MB / Penumbra / Dan, Judy, observatory const.

EM3 ~2345-0045~ / 10-f / 3MB / Penumbra, Spica / - / general viewing
4555.8 VSO-I 213843 SS Cyg 11.0 / var = 3

Wednesday, 12/13, 4556.

S. 1500-1730 int / 3MB / Penumbra / Dan S., Judy / - Moon.
Observatory construction, completed.

E2. ~2300-2330~ / ~~3~~ 7-6-f / Gary Hall / - / Gary, Saul Levy,
Duane / - Test of site.

MP3. 0255-0305 / 3-f / near airport / - Little Joe / - / M45.

14 0430-0600 / 9-10-3-f / 3MB / Virgo, Spica / - /

CN3 0h 35m E. -

Thursday, 13/14, 4557.6

2000-2130 / 3-f / 3MB / Vega, Spica, Penumbra / Moon, / Bob M.
[Saturn]
SS Cyg 11.4. - 1 var = 4

2 2230-2300 / 3-f / 3MB / Spica / M42, 31, 110, 32, 45. / Bob Miller

M3 2340-0050 / 3-f / 3MB / Spica, Mira 3, Saturn / Bob Miller.

Spica: M42

Saturn: M35

Mira 3: photo mt. for M. Orion, Taurus

Robert D. Miller

622-3366

Lt. Zett gave
this number.

Dep. Sturgeon
Dep. Thomas

FRIDAY, 14/15, 4558.

1030-1400/8-F/3 Mount Hopkins Obs/Maria/-Judy, Dan B, B
-20 school kids/ Sun viewing. Terrestrial.

2. 1930-2100-13-8Fm/ Camp Cooper/ Litt Telescope, RV-6/
-60 children, Bob, Judy/ -Moon.

SATURDAY, 15/16, 4559.

E. 1000-1800 int/8-F/3MB/ Penumbra / Dan^{Judy} / Moon. Jarnac 3
Station const.

2010-2050/3-F/F. Planetarium/ Dan^{S. Bob M} / Little Joe
only / Moon. Public starright.

43 2230-0100/3-F/3MB/ Spica, Penumbra / Dan / Obs.
const. General: M42.

SUNDAY, 16/17, 4560.

E. -2100-2230-13-F/3MB/ Spz new Jarnac 3 test. Virgo.

MONDAY, 17/18, 4561.

2. 1100-1530/39-F/KPNO/Solar vis. tel., Razdow/
Rick, Gerry & Bev Persha / - Sun in vis. & H_α. nice prom.

EM2. 2300-0010/8-Fm/3MB/Spica, Virgo / (!) / - /

VSO-I. See p. 107.

	.764	.771	.778	.785	.792				
	1120	1130	1140	1150	1200	1230	40	50	1300 10
10ri	72	72	71	71	71				
372	80	79	80	81	79				
P-30	94	95	95	96	96				
P	95	95	96	96	96				
U	97	96	97	97	96				
Y	103	103	102	102	103				
N	98	99	100	101	100				
S	102	101	102	103	102				
	102	102	101	102	101				
2	89	89	89	89	89				

50 var = ~~55~~ 54

	.813	.819	.826	.833	.840
	1230	1240	1250	1300	1310
U Ori	71	70	71	70	71
372	79	81	82	82	81
361	94	95	95	95	95
P	95	95	95	96	95
U	97	97	97	97	97
Y	101	101	101	102	101
V	102	101	101	101	101
KS	103	103	103	103	103
F	101	102	100	101	102
2	89	89	89	89	88

50 var = 104

Tuesday, 18/19, 4562.9th #.E. 1820-1845 / 7-fm / JMB / Penumbra, Maia /

CN-I: 40 }
 23 } 6
 23a }

Moon.

42 0015-0115 / 8-fm / JMB / Spica, Maia, Penumbra / -1

VSO-I: see above.

Wednesday, 19/20, 4563.

E. 2100-2120/7-Fm/3MB/Spica, Maia/Judy/ & And, B Cyg,
Σ 2819 Cap^(?), Moon Penumbra

E2 2225-2325/7-Fm/3MB/Spica, Maia/-/VSO-I:

	.729	.736	.742	.748	.755
	1030	1040	1050	1100	1110
✓ NU	71	71	71	72	72
✓ V372	80	81	81	80	82
✓ V361	95	94	94	94	95
✓ LP	95	95	95	95	95
✓ 10	97	97	96	96	96
✓ MX	102	102	102	102	101
✓ NV	102	101	101	101	101
✓ KS	104	103	104	103	104
✓ T	103	103	103	101	102
✓ 2	89	88	89	89	88

50 var = 154

213843 SS Cyg 11.8 4563.8

1 var = 155

(5 / this session)

M3 0500-0545/9-F/3MB/Virgo/-1

CN3 0h 15m E. -

Penumbra: M42.

Thursday, 20/21, 4564.

4M 0000-0030/3-F/3MB/Penumbra/-/moon.

FRIDAY, 21/22, 4565.

SE. 1800-1815/10-F(m)/JMB/ Penumbra, Spica, Voyager/-/
moon.

E2. 1855-2100 7-Fm/JMB/ Penumbra
Spica
Voyager
Saturn
Small rr.

ie Brown

Community Star Party.
118 Rock St.

6 people.

0040-0150/3-Fm/JMB/ Penumbra, Spica/-/SS? VSO-I:

↑ .833 .840 .847 .854 .861
M3. 120100 0110 0120 0130 0140

✓ NUOm	72	72	71	72	72
✓ V372	81	81	82	82	82
✓ V34	94	94	92(1)	93	93
✓ LP	95	95	95	95	95
✓ IU	98	97	97	97	97
✓ MX	102	102	102	102	101
✓ NV	102	101	102	102	102
✓ KS	103	103	103	103	104
✓ T	101	101	102	103	103
✓ 2	89	89	88	88	88

50 var = 2045

Saturday, 22/23, 4566

E 1830-1900/8-F/Houghton Rd/Judy/Moonrise.

E2. 2000-2130/7-fm/Test for Isis and for Penumbra.

CN3 (mock) 20 min. Do not total. -✓

E3 0030-0115/7-fm/Spica/-/-/VSO-I.

	.826	.833	.840	.847	.854
✓ ND	1250	100	1310	1320	1330
✓ V372	71	71	71	71	72
✓ V361	81	80	82	82	81
✓ LP	94	94	94	94	93
✓ IU	96	96	95	95	95
✓ MX	97	97	97	97	97
✓ NV	102	101	101	102	102
✓ KS	102	102	101	101	101
✓ T	104	104	103	104	104
✓ R	102	101	102	101	102
	88	88	88	88	89

50 var = 2.55

Sunday, 23/24, 4567.

E. 1745-1800/7-f/3MB/penumbra/-/gnl.

E2. 1920-1935/8-f/3MF/-/Bob/general const. review.

E3. 1945-1955/7-fm/Stowell Observatory/Wolf 359/Bob/Moon.

E4 2105-2135/7-fm/S.O./~~De~~ Wolf 359, Cassiopeia/Danny/
watch for occ'n of by
0412-0432 UT search; no occ'n.

E5. 2215-2235/7-fm/3A S.O./Cassiopeia, Wolf 359/-/moon

E6. 2240-2330/7-fm/Propus 1, 2/3MF/moon. new truck.

E7. 0045-0140/7-fm/Pro Spica/3MB/-/VSO-I: see p. 111

4567

111

11 80

	.826	.833	.840	.847	.854
	0050	0100	0110	0120	0130
U	71	72	72	72	71
372	81	81	80	80	80
361	94	94	94	94	94
P	95	95	96	96	95
U	98	97	97	98	97
Y	101	101	101	102	102
VV	103	102	102	102	102
SS	104	104	104	104	104
	102	101	102	101	101
	88	89	89	88	88

50 var = 305

Monday, 24/25, 4568.

1830-1930 / 10-F / South site / Syncom 3-1

CN 3. Oh 35 m W. -

1940-2000 / 9-F / JMF / Mira 3 / Judy / M31 M45.

E3	2255-0000	8-fm	JMB	Pen,	Spica	-	VSO-I
	^{.757} 110	^{.764} 110	^{.771} 110	^{.778} 110	^{.785} 110		
	2310	2320	2330	2340	2350		
✓ NU	72	71	71	72	72		
✓ V372	80	80	82	82	81		
✓ V361	94	94	95	95	95		
✓ LP	96	96	96	96	96		
✓ U	98	97	97	97	97		
MY	102	102	102	102	102		
✓ MV	102	101	101	102	101		
✓ KS	104	104	104	104	104		
✓ T	103	101	101	101	101		
✓ 2	88	88	88	89	89		

Tuesday, Nov 25/26, 4569

50 var = 355

M. 0110-0120 / 3-F / JMF / Alphecca / - / M42.

M2. 0145-0215 / 3-F / JMB / Saturn, Penumbra / - / Moon, etc.

MP3 0240-0245 / 3-fm / Albus II / - / JMF / moon.

Wednesday, Oct November 25, 4570

S. ~1200-1215/8-10-F/JMB, B/ Penumbra/-1 Mezuzah installations
E on both obs. Sun.

E2. 1830-1930/10-F/SSI/Syncom 3/-1

B. CN3. 0h 15m W. -

M4. 0000-0040 / 8-fm / JMB / Spica, Penumbra/-1
VSO-I.

	.799	.806	.813
	0015	0020	0030
✓VUOr	72	72	71
✓V372	81	82	82
✓V361	94	95	95
✓LP	95	96	96
✓IU	97	97	97
✓MX	101	101	102
✓WV	101	101	101
✓KS	104	104	104
✓T	100	100	102
✓2	89	88	88
✓HU	119	118	118
✓JY	123	122	121
✓AN	121	120	120
✓VMR	120	119	119
✓NP	122	123	122

45 v_u = 400.

Thursday, 27/28, 4571.

7 E. 1825-1915/3-F/new south site/-SYNcom 3/-1

CN3 0h 25m W. -

8 E2 2250-2305/10-F/JMB/ Spica, Penumbra/-1 VSO-I.

	.750	.757	.764	.771	.778
	1100	1110	1120	1130	1140
✓ NU Ori	72	71	72	72	72
✓ V372	80	80	80	81	80
✓ V361	95	95	95	95	95
✓ LP	96	96	96	96	96
✓ IU	97	97	97	98	97
✓ MX	102	102	102	102	102
- NV	98	98	99	101	101 ←
✓ KS	104	103	103	103	103
✓ T	101	100	100	101	101
✓ #2	889	89	89	89	89
✓ HU	118	119	118	118	119
✓ IY	122	123	123	122	121
✓ AN	122	121	121	120	120
✓ MR	119	120	120	119	120
✓ NP	122	123	122	122	123
✓ AH	130	131	132	130	130
✓ AI	132	133	133	132	132
✓ V360	129	128	127	129	128
✓ NO	133 ¹²³	133 ¹²³	133 ¹²³	133 ¹²³	124
✓ #6	108	108	107	108	108

✓ WCyg 10.9 6.1
 ← SS Cyg 11.0 at 1137
 10.9 at 1147

104 var = 504.

✓ 2 Ori 0.9
 ✓ 7 Gem 3.1

IM 3. 0015-0030 / 9-fm / JMB / Saturn / - /

VSO-I:

✓ SS Cyg: 11.1 at 1225.

(Just before setting)

1 var = 505

M4. 0120 - 0150⁽¹⁾ 9-Fm / 3MF / Little Joe / - /

General observations:

Moon, M31

Db Cl. M42

1 meteor with stream, 1.5 mag. UMa, ~ 0130, NS

FRIDAY, 28/29, 4572

S. 7215-1240 / 7-F / Mithrandir / Mike Magee, Bob M. Margaret Finkhauser / Test for new 8"

E2 1830-1930 / 10-F / 3MB / Spica / - /

SS Cyg 18925 @ 10.4 | var = 506

E 2015-0215 / 10-F / 3MB / Spica, Penumbra, Mithrandir / Mike, Bob, Judy /
- / \$ VSO-I.

2030 / SS Cyg 10.4
SS Cyg 10.2
0020 SS Cyg 10.5

	1694	1764	2318	2330	2340	2350
✓ NO	72	72	71	72	72	72
✓ V372	80	82	80	80	80	81
✓ V361	95	95	94	95	95	95
✓ LP	96	95	95	95	95	95
✓ IU	98	97	97	97	97	96
✓ MX	103	101	102	102	102	102
✓ MV	101	101	102	100	100	101
✓ KS	103	104	104	103	103	103
✓ VT	99	100	100	100	100	98!
✓ Q	89	88	88	89	89	89
✓ HU	118	118	117	117	117	118
✓ IY	121	121	121	121	121	121
✓ AN	121	121	122	121	121	121
✓ MR	118	120	119	120	120	120
✓ NP	123	123	123	123	123	122
✓ AH	131	133	132	131	131	131
✓ AI	132	134	134	133	133	133
✓ V360	127	126	127	127	127	127
✓ NO	123	124	123	123	123	123

104 var = 610

Sunday, 30/31, 4574. - November

1910-1925/10-F/SMB/Wings / - / VSO-I:

✓SS Cygni 10.1
 ✓1010 SS Cyg 9.8
 ✓1037 " 9.9
 ✓1119 " 9.8

M2 2125-0010 / 10+-f/SMB/ Spica, Penumbra / - / VSO-I:

	1010 71 ^{.715}	1020 71 ^{.722}	1030 71 ^{.729}	1040 72 ^{.736}	1050 72 ^{.743}	1100 72 ^{.750}	1110 72 ^{.757}	1120 72 ^{.764}	1130 72 ^{.771}	1140 72 ^{.778}	1150 72 ^{.785}
✓NU	80	81	80	80	80	79	79	80	80	81	80
✓V372	94	94	94	95	95	95	96	95	95	95	96
✓V361	96	96	95	96	96	96	96	96	96	97	97
✓LP	96	96	96	97	97	97	97	97	97	97	97
✓IU	102	101	102	102	102	102	102	102	103	102	102
✓MX	102	100	101	101	101	101	101	100	99	100	100
✓NV	103	103	103	103	102	102	102	103	103	102	102
✓KS	101	99	99	98	98	98	99	99	98	98	98
✓1	98	88	87	87	88	89	88	88	88	89	89
✓2											
✓HU	117	118	118	118	118	117	118	117	118	118	119
✓IY	121	121	121	122	122	122	122	121	122	122	122
✓AN	120	120	121	121	120	120	122	121	120	122	121
✓MR	120	121	119	121	120	121	121	121	122	121	121
✓NP	122	122	122	123	123	123	123	123	123	123	123
✓A.H.	131	131	131	131	131	130	132	123 132	132	131	131
✓AT	133	132	133	133	132	132	132	134	132	133	133
✓V30	124	124	125	126	127	128	128	128	129	128	128
✓ND	124	123	124	125	123	124	123	122	127?	124	124
✓6	108	108	109	108	108	108	108	109	107	108	108

224 var. =

MP3 0015-0020/10-F/SMF/ Alouette / - / M42, M44.

M4 0030-0045/10-F/SMF/ Ethelred / - /

First light!

M42
 Belt
 M45
 M44
 Rigel.

Focuses better
 now, but with
 haloes.

December Monday, 1/2. 4575.

2150-2205 / 8-10-F / JMF / -Virgo / Judy / VSO-I SS C₉₉ 9.8

	757	764	771	778	785	792	799	806	813	820
11:10		11:20	11:30	11:40	11:50	12:00	12:10	12:20	12:30	12:40
	Presenting the Discobob: The M42 Disco Dance									
72	72	71	72	72	71	70	70	71	71	
81	81	81	81	80	81	81	80	80	80	79
95	95	94	95	94	95	93✓	95✓	94	95	95
96	96	96	96	96	95	96	96	96	96	96
98	97	97	98	97	97	98	98	98	98	98
102	102	101	102	103	103	103	102	103	103	103
101	101	100	100	101	101	98	100	99	101✓	
103	104	104	103	103	103	103	104	103	103	103
100	98	99	99	99	98	97	98	97	98	98
88	89	89	88	88	88	89	89	87	89	89
118	119	118	118	118	118	118	119	118	118	118
122	122	122	122	121	122	122	121	121	121	122
120	121	120	122	122	122	121	121	120	121	121
119	119	120	120	119	118	119	119	119	119	120
122	123	123	123	124	123	122	123	123	123	122
129	129	129	130	130	132	131	131	130	130	129
132	132	131	132	132	130	132	132	132	132	131
128	128	129	129	129	129	129	128	129	129	128
125	123 123	124	124	126	124	126!	125	124	124	124
108	109	110	110	109	109	108	108	107	108	108

2210 2300 n

110-F / JMB / Spica, Penumbra / -1 VSO-I ↑

20/ var = 20/

4576

Tuesday, December 2/3.

[(?) this day?]

1530-1700/8-f/- JMB/general.

1900-2000/8-10-f/JMB/Pegasus/-1

CN3 on 40m W.-

Comet Meier. - easy 94th through
in Pegasus.

2100-2230/8-10-f/JMB/Spica/-1 VSO-I.

204^{vac} = 405

	.666	.673	.680	.687	.694	.701	.708	.715	.722	.729
	2100	2110	2120	2130	2140	2150	2200	2210	2220	2230
Ori	72	72	73	73	72	73	73	74	74	74
	82	81	82	81	81	82	81	81	82	80
	94	94	94	94	94	94	94	94	94	94
	96	95	96	96	96	95	95	95	96	95
	98	96	97	96	97	98	97	97	96	97
	101	103	102	102	102	102	103	101	102	103
	102	100	102	102	100	99	101	100	101	102
	104	103	103	104	103	103	103	102	103	103
	102	101	101	100	101	99	99	100	100	100
	89	88	88	88	88	88	88	89	88	88
	118	118	118	118	117	117	117	117	117	118
	121	122	122	122	122	121	122	119	119	121
	123	122	121	121	122	121	122	122	122	122
	121	120	120	119	121	120	120	119	119	119
	122	122	122	123	122	123	122	121	122	123
	131	131	131	131	130	131	131	131	132	131
	133	132	132	132	132	132	132	133	132	133
60	128	128	128	128	129	128	127	127	128	128
	124	1243	123	123	124	124	123	123	123	124
	110	110	110	110	109	109	110	110	109	109

Wednesday, Dec 3/4.

4577

13 80

2130-2145/7-F/Gerry's house/Egous/Billy/Altair, Deneb.

SS Cyg 8.3

P2 2230-2235/7-F/"| -|-|

VSO-I:

 α Ori 0.7 η Gem 3.2

2 var = 407

MB	.764	.771	.778	.785	.792
	2320	30	40	50	0000. = 1200
✓ NU	74	73	72	72	73
✓ V377	81	82	82	81	82
✓ V361	94	94	94	95	95
✓ LP	95	95	96	95	96
✓ IU	96	97	97	98	98
✓ MY	102	102	102	102	102
✓ NV	98	100	98	99	99
✓ KS	102	102	102	102	103
✓ T	101	101	100	99	100
✓ 2	988	89	88	88	88
✓ HU	117	118	117	118	118
✓ IY	121	123	122	121	123
✓ AN	121	122	121	122	121
✓ MR	119	120	119	120	120
✓ NP	123	123	123	123	123
✓ AH	131	130	131	131	131
✓ AI	132	132	133	132	132
✓ V360	129	13128	128	128	129
✓ NQ	123	124	123	124	123
✓ 6	108	110	110	110	110 ✓

100 var = 507

4 0605-0625/10-F/JMB/Maia/-|

CN3 TH 0.05^m -

Venus, Cr. C,

A. J+S in same field in Maia ~ 10^o apart

Thursday, December 4/5, 4578

- ~P200-0205/7-F/Campbell N, Tucson / - / Mike Magee, others / general.
- P2. 0240-0250/10-F/JMF / - / - / general.

Friday, 5/6. 4579

1915-1945~ / 3-F / JMB / Penumbra / - /


VSO-I:

1930 SS Cyg 8.8

- P2. ~2°100-~2105 / 3-f / JMB / - / - / general.
- 2250-2330 / 3-2-F / JMB / Mike Magee / Saturn - LPO / 2 Genz & Anst.
- 0110~ - 0125~ / 3-F / JMF / Cassiopeia / Mike / M42, D6 Cl.
- 5 ~0140-0145 / 3-f / near 120 Carey / - / Mike / Canopus.

0155-0225 / 3-F / Davison Ranch / - / Mike / Virgo / M42, D6 Cl.
 Comet Stephan-Oterma and Crab Nebula in same field. Comet filmy,
 fainter than sharp Crab.

0240-0255 / 3-f / JMB / Pegasus / Mike / Comet + Crab.
 Betw. clouds, but beautiful sight. Crab obvious now from
 position, shape, brightness. Comet egg-shaped, but much more
 filmy + "flimsy-looking." Same field with much room to
 spare in 32mm.

 Rough sketch from memory.

0540-0610 / 3-F / JMB / - / Cassiop. / - /

CN 3 0h 20m E. -

VSO-I: RGB 6.0 2 vars = 509
TAB 13.0

Friday, Saturday, 6/7. 4580

EM. 2000-0200/3-2-F/Echo Valley obs./
Duane, Bob, Danny, TAAA/16-in. 1-1

Comet and Crab again in field,
slightly further apart than ~~at~~ yesterday.

Sunday, 7/8. 4581

RE. 2100-2115/7-F/JMB/-/-/general.

Monday, 8/9. 4582

BSE. 1430-1850/10-F/JMB/observatory - Jernac field
Station 4 construction. - [abb. JF4 const.]

E2 1930-1950/10-F/JMB.

M3. 0000-0050/10-F/JMB./-/-/general.

Tuesday, 9/10. 4583

S. ~1230-1700/8-F/JMB. JF4 const. (See now p. 122.
Wednesday, 10/11. 4584 For 5037)

RE. 1200-1820/8-F/JMB. JF4 const.

Penumbra: moon.

E2. ~~to~~ 2200-2210/8-F/Echo valley obs/-16"/ Duane/
mostly examination of his observatory. ~~S~~

37E2. 2210-2330/10-F/JMB/Sprica-/VSO-I:

	.722	.729	.750	.757	.764
583 Tuesday	1020	1030	1040	1050	1060
✓ NU	72	72	71	72	72
✓ V372	72	82	82	80	81
✓ V361	82	94	94	95	94
✓ LP	94	95	96	96	96
✓ IU	95	96	97	97	97
✓ MX	97	102	102	102	102
✓ NU	102	101	101	101	102
✓ KS	1	103	103	102	103
✓ T		100	101	102	102
✓ 2		88	88	88	89
✓ HU		119	119	118	118
✓ IY		122	121	121	122
✓ AN		120	121	121	122
✓ NIR		119	119	120	119
✓ NP		123	124	122	123
✓ AH		128!	128	128	119
✓ AI		131	132	132	132
✓ V360		127	127	128	128
✓ HNP		124	124	123	123
✓ 6		108	109	109	109

100 var = 609

1000 to 110-F/JMB-2/Sprica, Penumbra/-/ (call from Judy, call from Peter)

VSO-I, Meteors - some nice slow bright ones

Constan JMB-3 makes yard a mess.

9: see p/21.

40.

Thursday, 10/11/12 4585

2100-2200/3-F/JMB/Spica, Penumbra/ M42, etc.

Berry Rattley 195 Homestead Rd #2 Sunnyvale Ca. 94087
(408) 732-0202

Wilson Morrison Planetarium, Golden Gate Park San Francisco, Ca. 94118
4586 Seeing: fast Transparency: V. Good Weather: Ptlly Cloudy.

Friday, 12/13 4586

cloudy

Saturday, 11/12 13/4. 4587

SE. 1400-1820/8³-F/JMB/Penumbra/-/moon. JF4 const.

22. 0020-0145/P JMB/Pen/-/M42.

Many Geminids.

4588 Sunday, 14/15.

See p. 124.

~~SE. 1400-1800 int/ JF4 const.~~

Sunday 14/15 4588

E. 1400-1800 / 10-f / JMB / ^{Sp.} Pen. - Dan / Moo.

E. 2200-2330 / 10-f / JMB / Sp. - / M42.
Pen: M42

Const. on Sto. 4.

E. 0100-0105 / 10²-f / JMB / - / - / general.

E. 0120-0125 / 8-f / JMB / Alouette 2 / - / Rigel, M42.

Monday, 15/16. 4589

E. ~1500-~1800 / 8-f / JF4 const.

Tuesday, 16/17. 4590

125

12 50

E. ~1500-~1800 / 8-F / JF4 const.

Wednesday, 17/18 4591

SE. 1500-1800 / ~~8~~-F / JMB / JF4 const. ~completed, ready to use.
Danny / Pegasus as main JF4 inst. / Moon.

E2. 2000-2130 / 8-F / 3-F / JMB / Pegasus / Judy, Derald's Parents
Derald + Denise Nye / Opening of JF4!! CN3 15th Anniv.

3 2250-0100 13-F / JMB / Spica, Pegasus / VSO-I:

	.792	1200	1210	.799	1220
✓ NU	72		72		
✓ V372	81		80		
✓ V361	95		94		
✓ LP	95		96		
✓ IU	98		98		
✓ MN	102		103		
✓ NV	102		103		
✓ KS	101		102		
✓ T	102		103		
✓ 2	88		88		

20 var. =
629.

Thursday, 18/19. 4592

3. ~1500-1800~ / 8-F / JMB / JMF JF4 const still.

Friday, 19/20. 4593

E. ~~~1500-1800~~ 1900-2300 / JF4 const, + general viewing.
Curtains added to JF4.

Saturday, 20/21. 4594

EM. 1800-0030 / JF4 const. + some general naked eye viewing. outside almost entirely during this clear, moonlit evening.

Sunday, 21/22. 4595

E. 1920-1940 / 8-F / JMB / Mike^{Magee} / ~~JF4~~ general

2. 2100-2115 / 8-F / J Stowell house / Mike, Bonnie,
Moon, & Ori, & CMa. Distances.

M3. 2130-0020 / 8-F / JMB / Pegasus, Penumbra,
Spica / Mike / general. JF4 now ready, really.

Monday, 21/22/23 4596

2' 1800-2000 / 8-F / JMB / JF3 const! / Danny.

Tuesday, 22/23-23/24 4597

E. 1730-1800 / 8-F / JMB / clean up. All JMB site is finally (for real now) ready.

1P2. See before 5059/, 0100-0105 / 8-F / JMB / Mira 3 on aux. white stand / Moon.

E2. 2000-2320. 18-fm / JMB / Pegasus, Spica, Penumbra /
Michael Morse Taylor

VSO-I:

.8 S Per 9.4.

EP3 2330-2340 / 8-fm / JMF / - / MTaylor + Caroline / Canopus.

M4 0000-0250 / 8-F / JMB / Pegasus, Spica, Penumbra / - /

.806 .813 .819 .826 .833
1230 1230 1240 1250 1300

✓ MV	71	71	72	71	72
✓ V32	80	80	81	81	81
✓ V31	94	94	93	93	93
✓ LP	95	95	95	95	95
✓ 10	97	98	98	98	98
✓ MK	103	101	102	102	102
✓ MV	100	101	100	102	101
✓ K5	102	102	103	103	103
✓ T	101	101	101	101	102
✓ 2	89	89.	88	89	89.

VSO-I:

~~100~~ 50 var.

= 679

+ S Per = 680

Wednesday, 24/25. 4598

S. ~1100-~1120/8-F/JMB/ - Judy, Jeanine Stowell / Demonstration session.

E2 1720-1800 18-F/JMB/ - / - / sunset. Prep. For night's work.

E3 1820-2110 | 10-8-f | JMB/ - 2, 3, 4 | Sp. Recy | - |

	CN3	1 ⁰⁵ W.	.631	.638	.645	.652	.659	moonrise
	.617 750	800	810	820	830	840	850	90
✓ NU	70	71	71	71	71	71	72	72
✓ V372	83	80	82	80	80	81	82	81
✓ V361	95	95	94	94	94	95	95	94
✓ LP	97	96	96	96	96	96	96	96
✓ IU	98	98	97	97	96	97	98	98
✓ MX	102	102	103	102	102	101	102	101
✓ NV	101	100	101	102	102	102	101	101
✓ KS	103	104	104	103	104	103	103	101
✓ T	101	100	98	98	98	99	99	97
✓ 2	89	89	89	88	89	89	89	88
✓ HU	119	119	119	119	118	118	119	119
✓ IV	122	121	122	122	122	122	121	122
✓ AN	120	120	120	119	121	122	122	122
✓ MR	121	119	119	119	119	119	119	119
✓ NP	121	122	122	122	123	123	123	122
✓ AAH	129	129	129	129	129	129	130	129
✓ AI	131	131	131	131	131	131	131	131
✓ AV360	128	129	129	129	129	130	129	129
✓ NP	123	123	125	124	126	126	124	124
✓ 6	109	108	109	108	107	107	107	107

.7 SS Cyg ±2. 11.5 ← 887 →

5067M3 0030- ⁴⁵⁹⁸ 18-fm/JM-4,2|Sp, Reg|-1

VSO-I

Total var tonight = 206
=886

	.813 0030	.819 0040	.826 0050	.833 0100	.840 0110
#					
↓					
✓NU	71	72	71	71	71
✓V372	81	81	81	79	79
✓V361	94	94	94	95	95
VLP	95	95	96	96	96
✓IU	98	98	97	98	98
✓MX	102	101	103	102	102
✓NV	100	102	101	102	101
✓KS	103	104	103	103	104
✓T	101	101	100	101	100
✓2	88	88	88	88	88

Thursday, 25/26. 4599
5068E. 1800-1830/10f/JM-4/Pegasus 1-1 VSO-I.

SSCyg 11.5

| var = ~~888~~ 88

5069E2 2000-~2015/8f/Gerry's house/Epus/Billy/Capella.

4599

E3. 2140-2300 | 10-F | JM 3, 4 / Spica, Pegasus / - /

	2150	2200	2210	2220	2230
VSO-I	.701	.708	.715 moon rise	.722	.729
✓ NU	72	71	71	70	71
✓ V372	81	80	81	82	81
✓ V361	94	94	94	94	94
✓ LP	96	96	96	96	96
✓ 10	97	98	98	97	98
✓ MX	101	102	102	102	101
✓ NV	101	102	101	102	100
✓ KS	104	104	104	103	102
✓ T	102	101	99!	100	100
✓ 2	88	88	88	88	88
✓ HU	118	119	118	118	119
✓ 14	122	123	121	122	122
✓ AN	121	121	120	121	122
✓ MR	119	119	119	119	119
✓ NP	122	123	122	123	123
✓ AH	129	129	128	128	128
✓ AT	131	131	131	131	131
✓ V360	129	128	128	128	128
✓ NP	124	124	123	124	124
✓ 6	108	108	108	108	109

100 var = 987

Friday, 26/27 4600

E. 2200-2220 | 10-F | JM 4 / general.

Saturday, 27/28 4601

1800-1900 | 8-F | JM 4 / Pegasus / general.

before 72. 1600-1700 | 8-F | JM 4 / Mira / general.

M E 3. 2120-2140 / FP 1.6 " / Rolf, Peter, etc. / - / ~~142~~ M42.

M. 0100-0300 / JMB. / 6 JM 2, 3, 4 / Rolf Meier, Peter Jadicke, Eric Clinton, Gerald Schieven / - / general.

Sunday, 28/29. 4602

1500-1600 / JMB / others.
Sun.

M 2 1800-0400 / 10-F-3 / JMB / others / general.
TAAA Star party.

Su Mondays, 29/30. 4603

5 / Duane's / 1530-1630 / general.

2. 1930-0230 / 10-F, windy / JM 2, 3, 4 / Reg. Sp. M 3,
Echo - Syncom 4 /

	1040 .736	1130 .771	1140 .778	1150 .785	1200 .792	
VSO-I:						
✓ NU	72	72	72	72	71	
✓ V372	81	81	80	81	81	
✓ V361	95	95	95	94	95	100 var
✓ LP	97	96	96	96	96	1087.
✓ IU	97	98	97	97	96	
✓ MX	102	102	102	102	101	
✓ NV	102	101	101	101	100	
✓ KS	103	104	103	104	103	
✓ T	100	100	98	98 98	98	
✓ 2	98	98 8	89	89	88	
✓ HU	119	118	118	118	119	
✓ IY	122	122	122	121	121	
✓ AN	122	121	122	122	122	
✓ APMR	120	122	122	120	122	
✓ NP	122	124	124	123	124	
✓ AI	129	129	128	128	128	
✓ V360	131	130	129	130	130	
✓ NO	124	124	126	124	124	
✓ B	108	108	108	108	108	

5080 M2 20245-0310/10-F/ South site.

Tuesday, 30/31. 4604

5081 S. 1100-1600/10-3-f/KPNO/ Razdow, prominences.

5082 M2 0115-0530. /10-7-Fm/ JMB/ Cosmos 2+3,

Spica, Pen, Rg

.938 .945

0330 0340

VSO-I.

✓ NU	72	72
✓ V372	81	81
✓ V361	94	95
✓ LP	96	96
✓ IU	96	98
✓ MX	101	102
✓ NV	101	101
✓ KS	103	104
✓ T	100	99
✓ 2	89	88

30 var.

1117.

✓ HU	118
✓ IY	121
✓ AN	121
✓ MR	120
✓ NP	123
✓ AH	129
✓ AI	131
✓ V360	129
✓ NQ	125
✓ 6	108

Wednesday, 31/32. 4605

5083. E.M. 1800-0200/int/ ^{2-4/}3-F/ JMB/ others/ general.

1981.

January

19. 1100-1230/8-F/JM4, ^{Thurs. 4606} Cosmos / - others / 4 KPNO view

22 1730-1840/3-F/JMB/others/-1 general.

Thurs 4806

86EM3

1900-0050 / 3-f / 3MB / Cosmos, Pegasus,
Spica - Rolf, Peter, Eric, Grenakl

Ewald Schiewer

19
-12
7

	590	625	639	646	653	660
	1910	2000	2020	2030	2040	2050
✓NO	72	72	72	71	72	72
✓V372	81	82	81	81	80	80
✓V361	95	95	95	95	94	94
✓LP	96	96	96	96	96	96
✓IU	96	96	97	97	96	96
✓MX	102	102	102	102	102	103
✓NV	102	100	99	101	101	99
✓KS	104	103	103	104	103	103
✓T	101	989	99	99	98	100
✓2	89	89	89	89	89	89
		#				
✓HU		119	118	118	118	118
✓IY		122	121	121	121	122
✓AN		123	122	123	121	122
✓MR		120	121	121	121	121
✓NP		123	122	123	123	123
✓AH			128	129	129	
✓AI			131	131	131	
✓V360			128	128	128	
✓NP			124	124	124	
✓b			108	108	108	

100 var

+ 100 var = 100

Thurs. 4606

SS Cyg 11.7.

Ivar = .10/.

CN3 0^h35^m E. Cancer, etc. with Pegasus.1900-2100 Rolf did 2^h comet hunting, also with Pegasus.

Palmeier

2/3, Friday 4607

1430-1530/8f-10/5 Mt Hopkins / Ceres / Rolf, Peter, Derald,
Denise, Darcy, Dianne, Gerald, Eric, Duane. / Sun.
Ernie Victoria Kapitaniuk

2200-2300 at Tucson / Bart Bok & others / general.

0000-0630 / 10-F / ① JM 2, 3, 4. ② South site 2.
Pegasus, Spica / Peter, Rolf, Gerald Eric / -1Quadrantids 15^h28^m +50°.

0230

Upper West

	Time	Mag	Sh	Comment	Photo
1		3	Q		1
2		2	N		
3		0	Q	Wow!	
4	0240	3.5	Q		2
5		5	Q	#	
6		2	Q		
7		5	N		
8	0250	4	Q		3
9	0300	5.5	N		4
10	0310				5
11	0320	5.4	Q		6
	0330	3	N		7
		-break-			

P = Peter (SE)

	Time	Mag	Sh	Comment	Photo
12	0430	4	P	-	8
13		5	P	-	
14		2	P		
15					
16	0440	4	P		9
17		1	P	P	
18		2	N	P	
19	0445	3	P		
20		4	P		
21		7	N	P	
22	0450	+4	P	P	
23		+2	N	P+D	
24	0450	2	A	P	10
25		2	N	P	
26		1	P	D	
27		5	P	D	
28		1	P	P	
29		-1	P	D	
30		-10	P	D	
31		0	P	P	
32	0500	4	P	D	11
33		3	P	P	
34		-2	P	D	
35		+1	N	P	
36		+2	N	P	
37		3.5	P	P	
38		1.5	P	P	
39	0510	3	P	P poorly seen	12
40		4.5	P	D	
41		1	N	D	
42		0	P	P	
43		+2	P	P	
44		0	P	P	
45		-1	P	P	
46		4	P	D	
47		5	P	D	
48	0520	3	P	P	13
49		+3	P	P	
50		+1	P	P	
51		2	P	D	

No	Time	Mag	Sh	Comm	Photo
52	0530	+1	P	P	
53		2	P	+P	14
54		4	P	P	
55		4	P	P	
56		+2	P	P	
57		3.5	P	P	
58		4	P	P	
59	0540	1	P	P	15
60		4	P	D	
61		-1	P	P	
62		2.5	P	D-train	
63		2	P	D	
64		2.1	P	P	
65		2	N	D	
66	0550	4	P	D	16
67		3	P	Gerald	
68		4	P	D	
69		+3	P	G	
70		4.5	P	G	
71		4	P	D	
72		3	P	D	
73		2	P	G	
74		2	P	P	
75		4	P	G	
76	0600	2	P	D	17
77		4	P	P	
78		#0	P	P	
79		12	P	G	
80		4	P	D	
81	0610	3.5	P	G	18
82		4	P	D	
83		1	N	G	
84		2	N	D	slow
85		3	P	D	
86		3.5	P	D	
87		4	P	G	
88		0	P	G	

0620 end

3 belongs here.

3/4, Saturday. 4608

90E2. 1800-2030 / 3-F / JMB / Cosmos / Peter / General.
Photo attempts.

4/5, Sunday. 4609

11E. 2000-2015 / 2-3-F / JMB / - 1 others / - 7 or - 8
Fireball, bolide.

5/6, Monday 4610

12MP 2:0230-0240 / 3-F / JMB / - 1 others / Fast meteor.

3/4, Saturday. 4608

35. (see before 5090E2) 1540-1615 / 3-F / JMB / Peter, Dianne, Gerald, Eric, Judy,
Bonnie (First spotted halo)

Description by Gerald:

PM

- 4:02 - Saw small 22° halo with sun $15-17^\circ$ above horizon, halo was rainbow-coloured with red inside. 2 bright sundogs. Pillar (bright) extending straight out of right sundog same width of sundog, about $10-15^\circ$ long. This halo very bright at top. Another faint bow, blue inward, red outward about $20-25^\circ$ long and $\sim 10^\circ$ outside of 22° halo and straight above it, also centred on sun.
- 4:07 - Right pillar fades and left pillar forms, extending at least 30° outward. Both pillars were white. Left sundog has faded. Also large sometimes almost complete halo $\sim 30^\circ$ outside of 22° halo, with bright arc at top curving outward \curvearrowright (red inward, blue outward).
- 4:10 - All but 22° halo and arcs fade, sundogs fade, but colours change from rainbow coloured to red inside white outside. Top bright part seems to separate from rest of bow \curvearrowright

4:13



pillar on left $10-15^\circ$ outward from sundog, breaks for 30° when there are no clouds, then more pillar for $\sim 20-25^\circ$. Right pillar looks as follows



Faint arc appears same altitude as seen but 90° to left in azimuth, arc is perpendicular to line joining arc to sun, arc faint and only about $3-5^\circ$ long. I think red away from sun, white toward. Left pillar bright and very long, extending more than half way to arc. All other features very faint.

Clouds thinning again, only faint arcs at top and right of 22° circle present, and very faint rainbow-colored arc at top of very large arc (direction of curvature not discernable). No pillars nor left sundog. All 22° arcs only red & white.

to sunset Only right sundog left.

Throughout observation, clouds were cirrus. At start were very thin, wispy and high, slowly becoming thicker. This concurrent with change from rainbow color to red and white only. Wind from south-west, direction of sun.

Gerald Schieven

I'm a ^{Earthling} ~~space man~~ from our solar system
 And my spaceship has just broken down
 Can you fix a ~~defect~~ ^{defect} in my hyperdrive
 And do you accept my credit card

- Sung to Red River & Valley

4/5, Sunday. 4609

mostly cloudy.

5/6, Monday. 4610

some clouds.

6/7, Tuesday. 4611

Very cloudy, rain.

7/8, Wednesday. 4612

cloudy.

8/9, Thurs. 4613

? clouds.

9/10, Fri. 4614

? clouds.

10/11, Sat. 4615

? clouds.

4E. 2100-2300/1-F/Echo Valley obs./Duane, others/. clouds.

11/12, Sun. 4616

? clouds.

12/13, Mon. 4617

clouds. Kitt Peak.

13/14, Tues. 4618

rain. Kitt Peak.

? clouds.

Joe Patronite
(Photographer Az Daily Star)

Ed Severson - reporter - Star
Ed Severson

14/15, Wed. 4619

E. 1900-2200/6-f/5MB/ Pegasus, Saturn, Spica, Penumbra/Az Star
people / - / Moon. Photo. See Az Star, Jan 25.

15/16, Thurs. 4620

? cloudy

16/17, Fri 4621

? cloudy.

17/18, Saturday. 4622
mostly ~~at~~

~0300 -- 0310/5MB/-/-/ very cold + windy.

18/19, Sunday. 4623.

1930-2130/FP 16/.

19/20, Monday. 4624

1. 0030-0130/8³-f/5MB/ Peg/-/Maita/ Eclipse of Moon.

~~CA3~~. ?

20/21, Tuesday 4625

2030-2130/8-f/5MB/ Peg/Dan Brocius/general.

21/22, Wed. 4626

~~193~~ 1830-1930/8-f 10f/5MB/ Pegasus/-/

CA3 0130m, -

26. 2250-2315. Spica Just see p. 142.

22/23, Thursday. 4627

5101Ea. 1940-2000 / 8-f / 3 MB / Spica / - / VSO-I.

	611	618
	1940	1950
✓ ND	72	72
✓ V372	82	80
✓ V361	94	94
✓ LP	96	96
✓ JU	97	97
✓ MX	102	102
✓ NU	97	99
✓ KS	103	102
✓ T	105	105
✓ 2	89	89
✓ HU	119	119
✓ Y	121	121
✓ AN	119	119
✓ AMR	119	119
✓ ANP	126	126
✓ AH	128	128
✓ AI	135	135
✓ V360	127	129
✓ VP	124	126
✓ 6	108	102

40 var = 14

23/24, Friday. 4628

5102EP 1900-1910 / 2-f / FP / Jim Scotti / - / 1.

This goes first from p. 141.

(SD 4626)

	759	764	771
	1110	1120	1130
✓ ND	72	73	72
✓ V372	80	81	82
✓ V361	93	94	94
✓ P	95	95	96
✓ JU	98	98	97
✓ MY	101	103	102
✓ NU	99	101	102
✓ KS	104	103	103
✓ T	105	106	106
✓ 2	88	89	88

Saturday, Jan 24 1980.

June Patterson

Dave Patterson

Living Wilson

Mike Simmons

Bob Knowlden

Bill Cartwright

24/25, Sat. 4629

5103EM. 1900-0400 int / 3-f / 3MB / Pegasus / see above.

25/26, Sun. 4630

5104ES. 1400-1600 / 3-F / FP / Solar Spectrograph.

5105EP2. 1930-1940 / 1910-1920 / 2-6-f / ~~3MB~~ FP / -1.

26/27/28, Monday. 4631

5106M. D235-0325 / 8-fm / 3M4 / -1- / general, listening to music

27/28/29, Tuesday. 4632

5107EP 2130-2140 / 7-F / 3MB.

4632

EM2/ 1050-1245/8 10-F/ JMB/ -/ Spica/ VSO-I.

	750	757	764	771	778	785	792	799	806	813
	1100	1110	1120	1130	1140	1150	1200	1210	1220	1230
✓ ND	72	71	72	72	71	72	72	72	72	72
✓ V372	80	82	81	81	82	81	81	82	81	81
✓ 361	95	94	93	94	94	94	95	95	95	95
✓ LP	96	95	95	95	95	95	95	96	96	96
✓ 10	96	96	97	97	97	97	97	98	97	97
✓ MX	102	102	103	103	103	103	103	103	102	102
✓ NU	101	100	101	99✓	98	98	98	97✓	98	99
✓ KS	103	104	104	104	103	104	104	104	103	104
✓ T	107	108	108	108	108	108	108	109	108	107
✓ 2	89	89	89	89	89	88	89	89	89	89
✓ HD	117	118	117	118	118	118	117	118	117	118
✓ Y	121	122	121	122	123	123	122	122	123	121
✓ AN	119	118	118	119	119	119	120	120	120	119
✓ MR	121	120	121	120	120	120	119	120	121	121
✓ NP	122	123	123	123	122	123	123	124	124	124
✓ AH	130	130	131	130	130	130	130	130	129	129
✓ AT	133	133	133	134	134	135	135	136	135	135
✓ AD	130	129	129	130	130	130	130	131	130	129
✓ ND	124	124	124	124	124	125	124	124	124	125
✓ 6	108	108	108	108	89 109	108	108	108	108	108

↑ ↑
26mm 20mm

200 var = 341

Friday, 29/30, 30/31. 4635

cloudy.

Saturday, 31/32. 4636

1095. 1200-1730 int/ FP. / Sun Telescope + heliostat (solar spectrograph)

10E. 2300-~~0055~~⁰²⁰⁰ | JM2 | Spica / - / VSO-I:

	764	771	778	785	792	799	806	813	819	826
	2320.	2330	2340	2350	20000	0010	0020.	0030	0040	0050
U	72	72	71	71	72	71	71	72	71	72
72	80	80	80	81	80	80	81	81	81	81
61	94	95	95	95	95	94	95	95	95	95
P	96	96	96	97	96	96	96	96	97	97
	98	98.	98.	97	98	96	98	96	96	96
X	103	103	103	103	102	103	102	102	102	102
V	107	107	98	96	97	97	98	97	97	98
S	103	103	103	103	103	103	103	103	103	103
	101	101?	101	101	101	100	100	101	102	102
	89.	89	89.	89	89.	89.	89	89	88	88
40	117	117	117	118	117	118	118	117	117	117
Y	121	121	121	121	121	121	121	121	121	121
W	118	118	120	120	119	120	119	#120	120	119
R	121	120	121	122	120	121	121	121	121	121
P	122	123.	124	123	123	123	122	124	123	123
4	129.	130	129	130	130	128	130	128	128	129
BT	134	135	136	136	136	#137	136	136	135	136
360	120	131	130	131	131	129	130	130	129	129
10	124	124	125	124	124	125	124	124	124	124
!	108	108.	108	108	108	108.	108	109	108	108

cont'd on p146

...concluded.

060833 n Gem 3.2 ✓830 840 847
0100 0110. 0120

✓ NU	71	72	72
✓ V372	81	82	81
✓ 36	95	95	95
✓ LP	96	96	96
✓ 10	97	97	97
✓ MX	102	102	102
✓ NU	98	98	97
✓ KS	103	103	104
✓ T	102	104	103
✓ 2	89	89	89
✓ HU	117	117	118
✓ Y	122	122	121
✓ AN	119	120	120
✓ MR	121	121	121
✓ NP	123	122	123
✓ AH	130	129	128
✓ AI	124 134	124 134	135
✓ V360	130	130	129
✓ NP	124	124	124
✓ 6	108	108	108

$$260 \text{ var} = + 1 \text{ above} \\ = 602$$

$$+ 30 \text{ from } 142 \\ = 632$$

February 1/2 Sunday 4637

5111S. 1200-1730 int/7-F/Wickman 16", FP, + Spectrograph/
Sun.

5112EMP. 0230~--~0240/7 10-F/JMF/-/-/general and
SMB/Penumbra:

Jupiter
Saturn all "almost" in same f
δ Vir

2/3, Mon. 4638

5113M. 0000-0130 10-f/SMB/Spectr 1-1 VSO I:

	⁸⁰⁶ 1220	⁸¹³ 1230	⁸²⁰ 1240	⁸²⁷ 1250	⁸³⁵ 1300
✓NU	72	72	72	71	72
✓V3672	81	81	80	81	82
✓361	96	96	96	95	95
✓LP	96	96	97	96	96
✓IU	98	97	97	97	97
✓MX	103	103	102	103	102
✓NV	96	96	97	97	98
✓KS	103	103	103	103	103
✓T	106	107	107	104V!	104
✓2	88	89	88	88	89
✓HU	117	117	117	118	118
✓1Y	122	121	122	122	121
✓AN	121	120	119	121	120
✓MR	121	121	121	121	121
✓NP	123	123	124.	123	123
✓AH	129	129	129	130	129
✓AI	135	135	136	135	135
✓V360	129	130	129	129	130
✓NP	125	126	125	125	124
✓6	108	108	108	108	108

100 Van = 100.

SC1
A1
P11
P11
SC1

Saturday, 7/8 4643

S. 1230-1700 / 7-F / FPI Wickman 16 / - / Sun. Also spectrograph.

M. 1830-0400 / 10-F / JMB-3-4 / General:

~~Michael Pyle~~
~~Gary A. Staff~~
 James V. Smith

- Ah... A MOONLESS NIGHT!! I'm GOING TO SEE GALAXIES FOR DAYS. RECORD - ABOUT 70 OBJECTS TONIGHT, MOST IN THE COMA-VIRGO CLUSTER... AND OF COURSE - COMET PANSTER (DOWN).

Paul of Uhuvar - 16" porthole telescope owner
 1st 16" in your back-yard!
 Happy to have been here - Put scope to good use - saw 6 or more objects for 1st time!

Dave Griesel - SUPER VIEW OF 1792/1808
 CANT SEE FROM TUCSON

Paul Lorenz - super views of 2683 + cluster 2477
 in 16"

Michael Pyle Territic objects in view 2360, M31, 32, 51
 Scott Henning, well, after having struggled in town with Mercury vapor lights and smog I finally saw some decent galaxies.

Comet Panster seen.

uesday 11/12, 4647.

22E. From 7:30 to 9:30 pm / JMB /
 Stowell's + Briggs.

23E 2300-2330 / JMB / general.

Thurs. 12/13. 4648

18 S. ~ afternoon sun session.

19 E2 evening general session.

20 E3 later evening general session.

21 M4.	0020	0030	0040
	.806	.813	.820
✓ NU	72	72	72
✓ V30	80	80	80
✓ V361	94	94	94
✓ LP	96	96	96
✓ IU	97	97	97
✓ MX	102	103	103
✓ NV	101	102	102
✓ KS	103	103	104
✓ I	104	104	104
✓ 2	89	89	89

30 over = 335

22-5123 - see p. 149.

Saturday Feb. 14

I was here! Vivian Lewis

So was I! Bill Cartwright. I made a lot of noise.

24 EM. 1900-0300 / 8-3-2-f / moon / SMB. ↗

Sunday 15/16 4651

25 EM. ~~2200-22~~ 0030-0100 / SMB / general.

Monday, 16/17, 4652

E ~1900-1930/general

Tuesday, 17/18, 4653

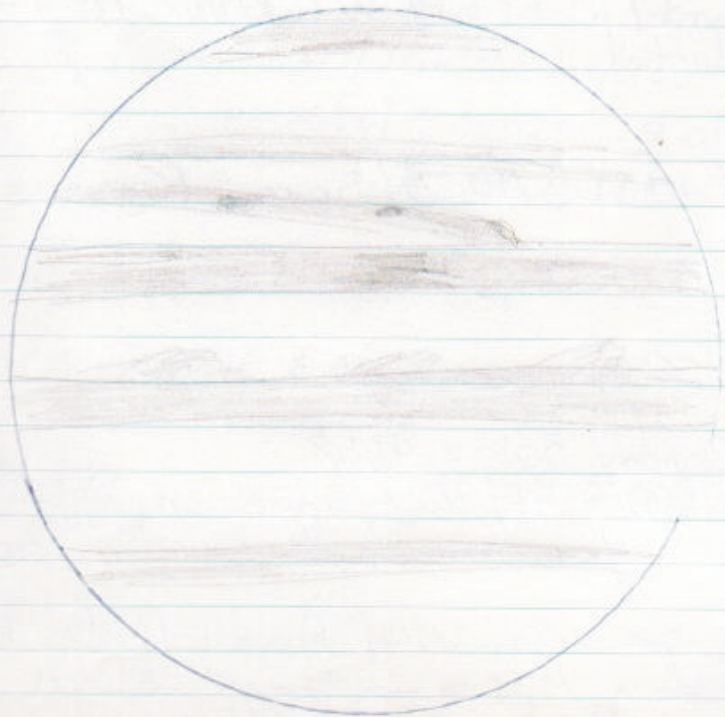
~~1930-1930~~

EM. 0200-0230/SMB/general

Wednesday, 18/19, 4654

E. 1900-2100/8-fm/SM4/Mike Magee/general. M1 - full moon
↳ barely visible

M. 0100-0300/8-fm/SM4/Mike/Pegasus/Jupiter: M51
just visible
harder than M1



5130E

Thursday 19/20, 4655

1900-2000 / 7-fm / 3M4 / Pegasus / - / VSO-I: 50.

19/10.	19 ²⁰ 20	19 ²⁰ 30	19 ²⁰ 40	19 ²⁰ 50
✓ NV	72	72	72	71
✓ V372 / 261	82	82	82	81
✓ 361	94	93	94	94
✓ LP	94	95	95	96
✓ 10	97	97	97	97
✓ MX	102	102	102	102
✓ NV	100	0	01	101
✓ KS	103	103	104	103
✓ T	104	104	103	03
✓ 2	89	89	90	89

50: 385

0030-0200 / 7-fm / 3M4, + walk to south site / general.

5131E. See p. 148.

Friday, 20/21, 4656

5132E. 1900-2100 int / FP/16 / general.

Saturday, 21/22, 4657

5133S. 1230-1700 int / 10-f / FPI WICKMAN 16" / - / Sun.
Also scope dusted.

e

5134E. 1930-2215 / 10-f / 3M2, 3 / Spica, Pegasus / - /

CN3 0^h30m. -

VSO-I: 100 var = see p. 153 = 485

Sunday, 22/23, 4658

5135S. 1230-1800 int / 10-f / (FP/16" + Spectrograph) / - / Sun. Also
successful attempt to ~~locate~~ relocate sun in sp.

E

5136E₁₂ 0030-0330 / 10-f / 7-fm / 3M4 / Pegasus / Mike Magee / Moon
M51, ~~h~~ barely visible, M51 easier than 5129M.

Monday, 23/24, 4659.

5137DS. 1215-1230 / 7-f / 3M8 / Pegasus / Apollo / - / Sun,

(5134E). from Sat.

J.D. = 4657

	2130 .687	40 .694	50 .701	1000 .708	1020 .722
✓NU	72	72	71	71	71
✓V372	82	82	82	81	82
✓V361	95	94	94	94	94
✓LP	96	96	96	95	95
✓IU	98	98	98	97	97
✓MX	102	102	102	102	102
✓NV	98	99	99	97	100
✓KS	103	103	103	102	102
✓T	104	104	104	104	105
✓2	89	89	88	89	89
✓HU	118	118	119	118	119
✓1Y	121	122	121	121	121
✓AN	118	118	119	120	118
✓MR	119	119	119	119	120
✓NP	123	123	124	123	123
✓AH	130	129	129	128	129
✓AI	134	132	132	131	131
✓V360	129	129	128	130	129
✓NQ	123	123	122	124	123
✓6	108	108	108	108	108

138S2 ~~1500~~ 1310-1330/10-F/Flandrau Planetarium (FP/
Spectrograph. 1-1 Successful completion of relocation + positioning
of sun, from 51355. No one had touched it meantime.

39 E3. 1930-2315/10-F/3MB(R-4)/Spica, Pegasus / -
CN3 Oh 10^m E. -

VSO-I: 300 vac = 685

see p.155.

Tues 24/25, 4660.

VSO-I

	15	10+F	2,3,4	Spica	Pegasus	CN3	0°15'E			
	.681	.694	.701	.708	.715	.722	.729	.736	.750	.75
	1000	1010	1020	1030	1040	1100	1110			
930	940	950	1000	1010	1020	1030	1040	1100	1110	
NU 72	71	71	71	71	71	71	71	71	71	
V372 82	81	80	81	81	82	81	82	82	82	
V361 96	95	95	95	95	94	95	95	95	95	
LP 96	967	97	96	96	96	97	96	96	96	
VU 98	98	97	97	97	97	97	97	97	97	
MX 102	102	102	102	102	102	102	102	102	102	
NU 97	97	97	97	98	98	98	98	98	99	
KS 103	103	103	103	103	103	103	103	103	103	
VT 104	105	103	106	103	104	104	104	103	103	
12 89	89	88	88	89	89	89	89	89	89	
HU 119	119	119	118	118	118	118	118	118	118	
VY 122	122	121	122	122	122	123	123	121	122	
AN 120	119	118	118	118	119	119	118	119	118	
MR 120	120	120	120	119	120	120	120	120	119	
NP 126	123	123	123	124	124	124	124	124	123	
AH 129	129	128	130	130	130	131	130	130	129	
AI 134	132	134	132	132	132	132	133	132	133	
V360 130	128	130	129	129	129	130	129	129	128	
NP 126	128	124	124	125	124	124	124	124	128	
16 108	108	109	108	108	108	108	108	108	108	

VSO-I: 200 var. = 885

5141M2. 00320-0130/9-f/3M4/Pegasus/music/general.

Wednesday, 25/26, 4661.

- 5142EM 2355-0010 | I-F | FP | Wickman 16 | didn't open clouds.
- 5143EM2 0010-0025 | int | Tucson | some clearing.
- 5144MP3 0130-0140 | I-10 | - | - | beautiful dark cumulus on moon, moon peering through. Scanning.

Thursday 26/27, 4662.
cloudy.

From Mon 23/24, 4659)

Variables from 5137E3. Do these before those on facing page

	603	60	47	24	45	57	59	26	78	7
On	730	740	750	800	830	870	850	900	1000	101
V312	72	72	72	72	73	72	72	71	72	72
V341	81	81	81	81	82	81	81	81	82	81
LP	92	92	92	92	93	93	93	93	95	95
10	93	93	93	93	94	94	94	94	96	97
M	94	94	94	94	95	95	95	95	97	97
15	95	95	95	95	96	96	96	96	97	97
2	97	97	97	97	98	98	98	98	102	102
HD	97	97	97	97	99	99	99	99	103	103
11	100	100	100	100	101	101	101	101	103	103
AN	102	102	102	102	103	103	103	103	107	107
MR	103	103	103	103	104	104	104	104	108	108
NP	104	104	104	104	105	105	105	105	109	109
AH	105	105	105	105	106	106	106	106	120	120
AI	106	106	106	106	107	107	107	107	126	126
V360	107	107	107	107	108	108	108	108	130	130
NP	108	108	108	108	109	109	109	109	132	132
6	109	109	109	109	110	110	110	110	129	129
	109	109	109	109	110	110	110	110	129	129
	109	109	109	109	110	110	110	110	108	108

(From 625
see also p. 153.)