

the san jose astronomical association

John P. Gleason
Editor
241-1058

june '77

CALENDAR OF EVENTS:

June 3: Olinder Center, 7:30 P.M. Elections and Slide Night

This is the annual meeting where board members are nominated and elected by the membership. If you are interested in a board position, please contact the nominating committee. The members are: Bob Malm 941-1343, John Rhodes 969-2615, Dr. Gregory 258-6095. This is also the association's spring slide and print exposition. This will give you a chance to show off the astronomical slides and prints you have acquired recently. Please limit yourself to just a few of your best slides since many members are planning to participate. If you have a lot of interesting slides to show, you may consider showing them at one of the Los Gatos Red Cross meetings in the weeks ahead.

June 10: Board Meeting, Ed Schell's home, 8:00 P.M. Ask Ed for Directions.

June 11: Los Gatos Red Cross, 7:00 P.M.

June 18: Lexington School, dusk till dawn F.E.A.O.

This month's Field Expedition for Astronomical Observation will be held at Lexington School, near Lexington Reservoir. Our association is presently looking at alternatives to the Skyline site which is presently out of use. Lexington School is one of several locations under consideration as a potentially good general observing site.

June 25: Los Gatos Red Cross, 7:00 P.M.

July 1: No General Meeting at Olinder Center this month. Picnic, July 9.

July 2: Los Gatos Red Cross, 7:00 P.M.

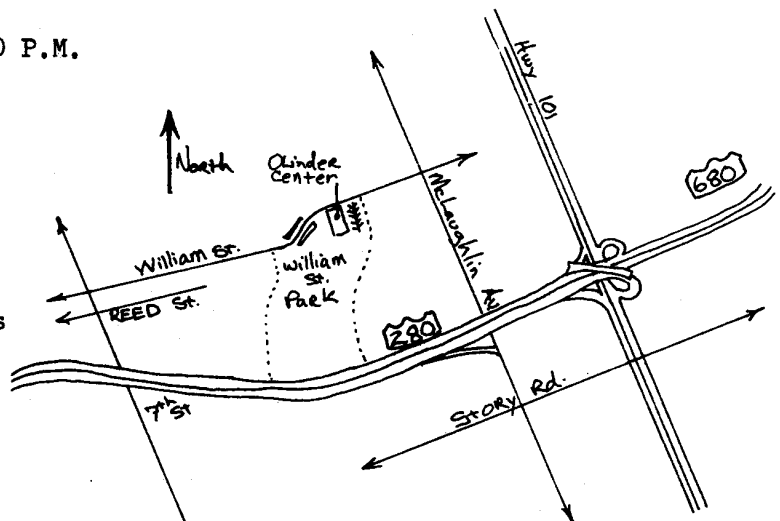
July 9: Ed Levin Park

Installation of the new officers and picnic. More details in your July bulletin.

July 16: Field Expedition for Astronomical Observation. No location at this time.

July 23: Los Gatos Red Cross, 7:00 P.M.

The General Meeting of the San Jose Astronomical Association is on the first Friday of every month at 7:30 P.M., Olinder Center, William's Street Park, San Jose, California.



MEMBERSHIP RENEWALS

Members, be sure to give your yellow Sky and Telescope renewal cards, along with your \$15 membership fee to John Rhodes, Treasurer. \$10 for junior membership, under 18. July will be the last month you can renew your membership without the penalty of missing an issue of Sky and Telescope magazine.

HENRY COE PARK F.E.A.O. (Field Expedition for Astronomical Observation)

The May F.E.A.O. at Henry Coe Park fell victim to wind, cold, and fog. The evenings event was very well attended but several problems ensued due to the very large crowd. The biggest problem was that the gate to the observing site was left open many times. We must remember to close the gate after we have entered and lock it. This rule is to be strictly enforced if we are to continue to use this area. Visitors without telescopes should use the parking area across from the gate and then walk up the hill. This will reduce the constant opening and closing of the gate and will allow more room for those of us who have telescopes and are planning to spend most of the night at the observing site.

PERIODIC COMET ENCKE

The following ephemeris, by B. G. Marsden, is for 1977 with a pre-perihelion extension. The comet is very badly placed for observation at this perihelion passage, the maximum elongation from the sun being 31° in late June. During most of August the comet will be within 15° of the sun.

		RA.	DEC.	MAG.
June	6	2h 50.9m	+22 50.5	16.0
	16	3 23.24	+25 07.4	
	26	4 01.94	+27 14.3	13.3
July	6	4 49.12	+28 52.3	12.1
	16	5 46.97	+29 26.0	10.9
	26	6 56.50	+27 57.2	9.8
Aug.	5	8 16.20	+23 11.2	9.0
	10	8 58.72	+19 13.6	
	15	9 42.00	+14 12.5	8.5

The first evidence of quark electrical charge comes from U. C. Santa Barbara with the figure quoted as 0.89 \pm 0.34% of an electron charge.

Science News, Apr. 30

A theory with some observational support has been presented that cosmic-rays come from supernova explosions.

Science News, May 14

The discovery of two new asteroids within the earth's orbit raises the total of "Apollo" objects to 24 with 2 uncertain.

Science News, May 21

occulting zone

LUNAR OCCULTATIONS

June	PDT*	Mag	Ill	El	CA	PA	Star, Notes
21	10:08:09D	7.8	26+	17	59S	144	
22	9:24:51D	8.7	36+	32	26S	178	Twilight
	9:41:09D	8.7	36+	29	70S	134	Deep twilight
	10:46:30D	8.2	36+	17	70N	94	
21	10:39:37D	9.2	27+	12	44N	67	
24	9:08:47D	8.3	57+	41	49S	154	Twilight

* Times are PM except as noted.

A rather short list this month -- no double stars. Some are a bit dim, but should be readily seen if conditions are clear.

Since the moon's motion is eastward, disappearances tend to concentrate around first quarter, as it is then that the eastern limb is dark.

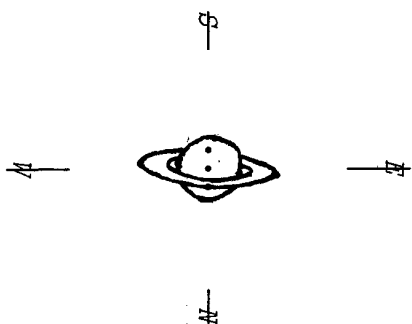
First quarter moon still falls late in the month, so get this article out on the 21st and watch some occultations. For early-month activity, see next section.

SATURN

Saturn-watchers, get out there -- our favorite planet will soon be gobbled up by the Sun, not to be seen until late this year. This is the last full month. The tables from which I calculate satellite positions extend only to July 7, so I've stuffed July into this month's article, the last one until late this year.

To draw a finder chart, paste the figure of the planet onto a sheet of paper. Then measure (in millimeters) in the directions indicated in the table, and plot each satellite. If you are using a star diagonal, turn the figure of Saturn upside-down and trace it before pasting it down. At the telescope, use the ring to gage the distances to the various satellites, then search using averted vision as needed. I find that about 100-150 power is best for satellite search, even if seeing will allow more on the planet. Advise me of your findings and I'll pass them along.

Jim Van Nuland, 371-1307



Num.	Name	Mag.	Scope	Period
I	Mimas	12.1	10"	0.94d
II	Enceladus	11.6	8-10"	1.37
III	Tethys	10.6	6-8"	1.89
IV	Dione	10.7	6"	2.74

Num.	Name	Mag.	Scope	Period
V	Rhea	9.7	3"	4.52d
VI	Titan	8.2	1"	15.97
VII	Hyperion	13.0	10"	21.32
VIII	Iapetus	10-13	6-8"	79.92

6 3 Fri.	6 10 Fri.	6 17 Fri.	6 24 Fri.	7 1 Fri.
I 2N, 12E	I 1S, 13W	III 0N, 20W	III 7N, 12E	II 2N, 13W
II 1N, 16E	II 4N, 15E	IV 5N, 13W	IV 3S, 20E	III 4S, 13E
III 3N, 20E	III 7S, 2W	V 7S, 35W	V 10N, 30E	IV 0S, 25W
IV 8N, 5E	IV 7S, 4E	VI 6S, 85W	VI 6S, 73E	V 11S, 22W
V 1S, 36W	V 4N, 37E	VIII 14N, 71E	VIII 10N, 70W	VI 14N, 50W
VI 23S, 68W	VI 13N, 85E	6 18 Sat.	6 25 Sat.	VIII 3N, 188W
VIII 9N, 254E	VIII 14N, 190E	I 0N, 13E	I 1N, 11W	7 2 Sat.
6 4 Sat.	6 11 Sat.	II 1S, 14E	II 2N, 17E	I 3S, 6E
I 3N, 9E	I 2S, 13W	III 1N, 21E	III 7S, 9W	II 5N, 12E
II 5S, 5W	II 4S, 6E	IV 8S, 9W	IV 8N, 0W	III 3N, 16W
III 5S, 19W	III 6N, 2W	V 10S, 6E	V 8N, 17W	IV 6S, 9E
IV 7S, 23W	IV 8N, 17E	VI 16S, 83W	VI 4N, 85E	V 5S, 26E
V 11S, 16W	V 11N, 5E	VII 30S, 28W	VII 15N, 114E	VI 4N, 74W
VI 27S, 44W	VI 21N, 72E	VIII 14N, 51E	VIII 9N, 89W	VII 25N, 28W
VII 17N, 114E	VII 21N, 43W	6 19 Sun.	6 26 Sun.	VIII 2N, 200W
VIII 10N, 249E	VIII 14N, 176E	I 2N, 13E	I 0S, 13W	7 3 Sun.
6 5 Sun.	6 12 Sun.	II 5S, 11W	III 7N, 5E	II 3S, 10E
II 0N, 15W	II 3S, 16W	III 2S, 21W	IV 7S, 20W	III 1S, 18E
III 5N, 18E	III 6S, 6E	IV 6N, 25E	V 7S, 36W	IV 8N, 12E
IV 0N, 25E	IV 3S, 27W	V 4N, 37E	VI 13N, 85E	V 9N, 31E
V 3S, 30E	V 0S, 35W	VI 23S, 69W	VIII 8N, 108W	VI 6S, 85W
VI 27S, 13W	VI 25N, 48E	VIII 13N, 31E	6 27 Mon.	VIII 1N, 212W
VIII 11N, 242E	VIII 14N, 161E	6 20 Mon.	I 2S, 13W	7 4 Mon.
6 6 Mon.	6 13 Mon.	II 2N, 12W	II 1S, 17W	I 0S, 12E
III 6S, 15W	III 5N, 10W	III 3N, 20E	III 7S, 2W	II 4S, 15W
IV 6N, 11W	IV 4S, 18E	IV 1N, 24W	IV 2N, 27E	III 0N, 20W
V 10N, 27E	V 11S, 18W	V 11N, 7E	V 10S, 4E	IV 5S, 26W
VI 23S, 20E	VI 26N, 16E	VI 27S, 44W	VI 21N, 72E	V 8N, 14W
VIII 12N, 235E	VIII 15N, 145E	VIII 13N, 11E	VIII 7N, 126W	VI 16S, 83W
6 7 Tue.	6 14 Tue.	6 21 Tue.	6 28 Tue.	VIII 1S, 221W
II 2S, 13E	II 2N, 17E	II 4N, 14E	III 6N, 2W	7 5 Tue.
III 7N, 12E	III 4S, 13E	III 5S, 19W	IV 5N, 15W	I 1N, 13E
IV 8S, 11W	IV 8N, 2E	IV 7S, 7E	V 3N, 37E	III 1N, 21E
V 7N, 21W	V 4S, 29E	V 0N, 35W	VI 25N, 48E	IV 2S, 22E
VI 16S, 50E	VI 22N, 19W	VI 27S, 13W	VIII 6N, 143W	V 6S, 36W
VIII 12N, 226E	VIII 15N, 127E	VIII 12N, 9W	6 29 Wed.	VI 23S, 69W
6 8 Wed.	6 15 Wed.	6 22 Wed.	II 0S, 15E	VIII 2S, 230W
II 5S, 12W	III 3N, 16W	III 5N, 18E	III 6S, 6E	7 6 Wed.
III 7S, 9W	IV 7S, 21W	IV 8N, 15E	IV 8S, 6W	I 2N, 12E
IV 5N, 26E	V 10N, 28E	V 11S, 20W	V 11N, 10E	II 3N, 16E
V 8S, 34W	VI 14N, 51W	VI 23S, 20E	VI 26N, 16E	III 2S, 21W
VI 6S, 73E	VIII 14N, 109E	VIII 12N, 30W	VIII 5N, 159W	IV 7N, 3W
VIII 13N, 215E	6 16 Thur.	6 23 Thur.	6 30 Thur.	V 11S, 1E
6 9 Thur.	II 0S, 16W	II 4S, 16W	III 5N, 10W	VI 27S, 44W
I 1N, 12W	III 1S, 18E	III 6S, 15W	IV 6N, 24E	VIII 3S, 236W
II 3N, 10W	IV 1N, 26E	IV 4S, 26W	V 1N, 34W	7 7 Thur.
III 7N, 5E	V 7N, 19W	V 4S, 27E	VI 22N, 19W	III 3N, 20E
IV 2N, 23W	VI 4N, 74W	VI 16S, 50E	VIII 4N, 174W	IV 8S, 18W
V 10S, 8E	VIII 14N, 91E	VIII 11N, 50W		V 2N, 37E
VI 4N, 85E				VI 27S, 13W
VIII 13N, 203E				VIII 4S, 242W

North Celestial Pole

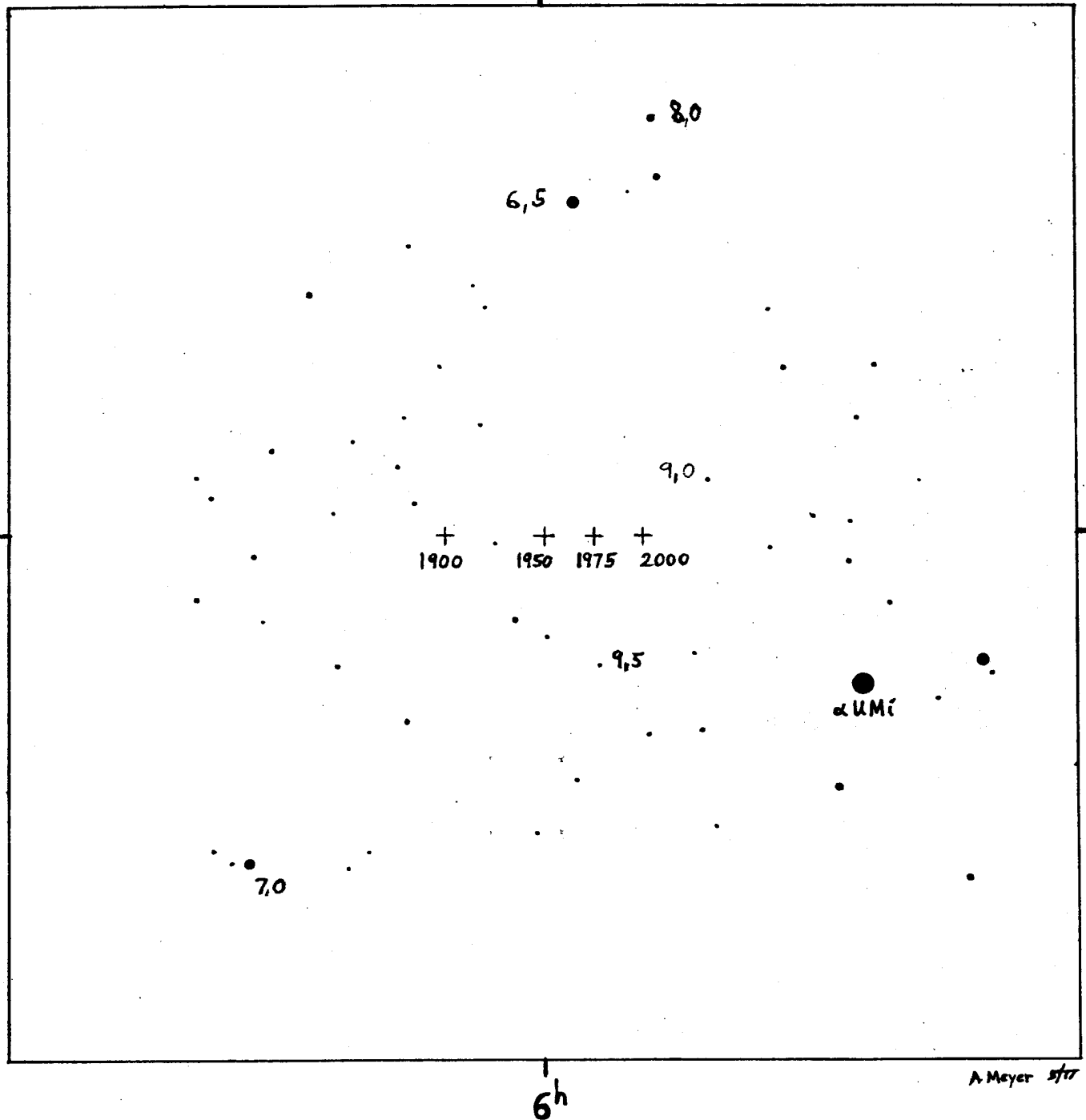
limit $m_v < 9.6$ for $\delta > 88.9^\circ$

18^h

scale: 1'/mm. or $1'' = 6 \text{ cm.}$

12^h

0^h



The Area shown is $3^\circ \times 3^\circ$. Only faint stars within 1.1° of the 1950 pole are shown, visual magnitude less than 9.6. Some sample values are shown. The scale is one arc-minute per millimeter. The Celestial Pole is moving 20 arc-seconds per year along a circle of $23\frac{1}{2}^\circ$ radius, centered on $18^{\text{h}}00^{\text{m}}$, $+66\frac{1}{2}^\circ$. The curvature of this motion is negligible at this scale.

Allan Meyer