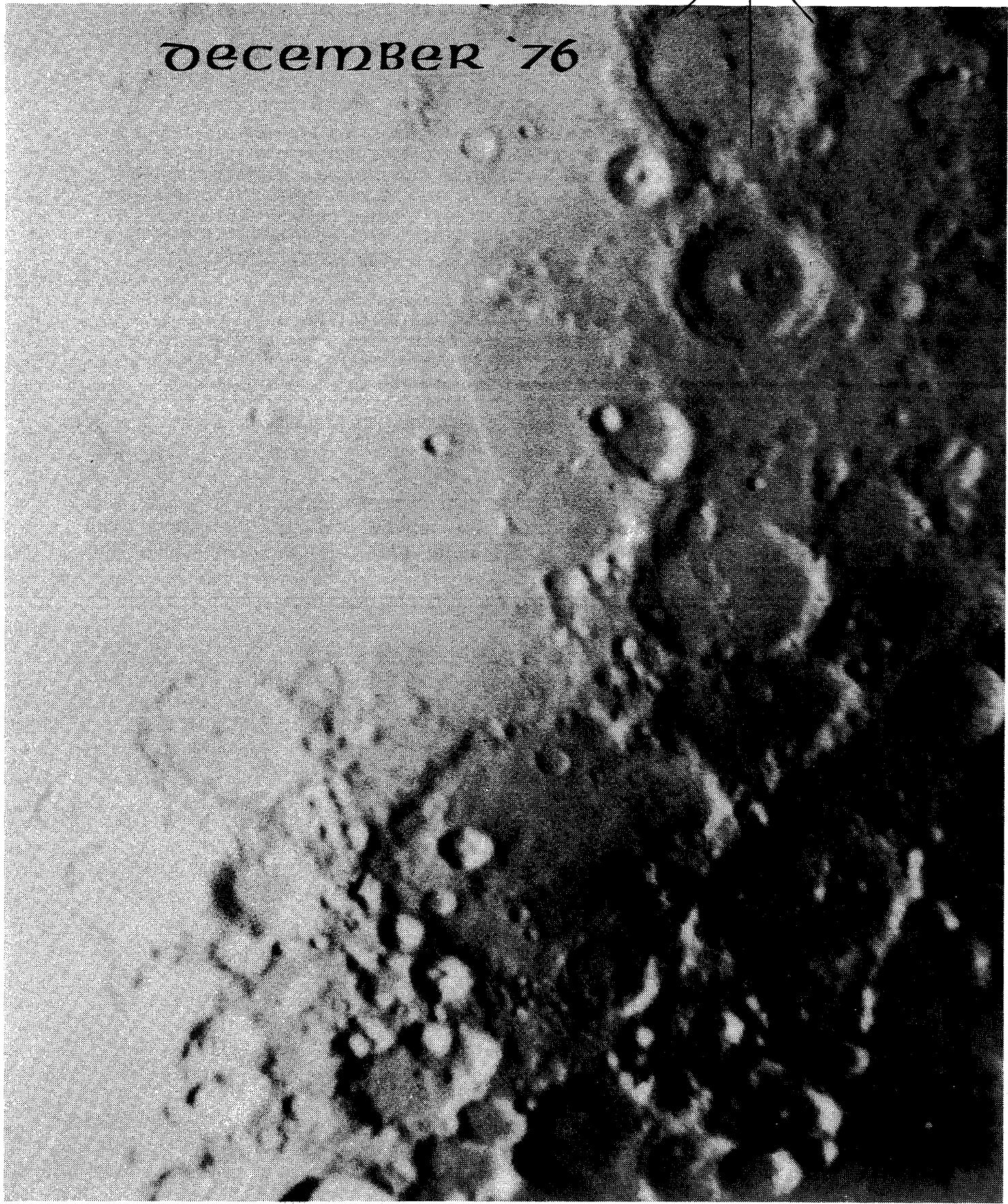


sjaa

december '76



## WHAT'S GOING ON IN THE CLUB:

December 3: Olinder Center, 7:30 P.M.

This month's general membership meeting is the fall slide & print exposition, an opportunity for you to share astronomical type slides and prints you have taken. These slide nights are your chance to participate and show your support for the club. I may bring a few examples of my numerous not so good shots, in case anyone doubts that the good astrophotos are not usually preceeded by many failures.

There will be a short presentation of a few books available through the club library. If you have a favorite book that should be considered, contact Gerry Rattley or Allan Meyer.

The final event of the evening will be a short swap-meet. Surely you must have some astronomical junk to unload for a pittance. The white elephant in the garage may turn out to be precisely what someone else needs. Please tag any item to be sold with an approximate price and your name to avoid mixups. Most amateurs are perpetually broke so try to keep the prices low and the bargaining friendly.

December 10: Jim Van Nuland's home, 8:00 P.M. board meeting  
3509 Calico Dr. San Jose

December 11: Los Gatos Red Cross, 7:00- 10:00 P.M.

This another informal get together organized by E. Schell. The event is whatever you wish to make it. The past meetings have been loosely centered on astronomy, but have included subject matter ranging from lasers to wildlife photography. Why not come on down and check it out.

**ANNELED**

December 18: skyline site, dusk till dawn, star\*party

January 7: Olinder Center, 7:30 P.M. general meeting

Allan Meyer, of the N.A.S.A. Kupier Airborn Observatory, will give the first of a two-part review of the topic "Demon Stars".

January 14: Norm Wild's home, 8:00 P.M. board meeting  
7757 Orange Blossom Dr.

January 22: El Sereno, dusk till dawn, star\*party  
Look for the blue and white S.J.A.A. signs.

Cover: This fine shot of the straight wall was contributed by Don Machholz. He exposed Tri-x for 1/30 sec. through a 200 mm f3.5 camera lens with a 40 mm eyepiece to obtain 30x.

Errata. This month we have one more name to add to your membership list.  
Don Mc Glauflin 1571 Piedmont Rd. San Jose, Ca. 95132 923-5344

## OCCULTING ZONE

LUNAR OCCULTATIONS

Dec	PST*	Mag	III	E1	CA	PA	Star,	Notes
9	4:44:40D	3.6	93-	50	-37S	160	λGem	A.M. time
	5:31:51R			41	38S	235		A.M. time
15	6:26:51R	7.1	37-	46	76N	307		A.M. time
16	4:00:17R	7.0	27-	19	87S	288		A.M. Time
24	5:10:29D	5.3	19+	39	69N	47	46 Cap	Bright twilight
	6:24:41R			29	-78N	260	46 Cap	Difficult
	6:01:00D	6.2	19+	33	28S	130	47 Cap	
25	5:36:33D	8.7	28+	44	49S	107		Twilight
26	5:27:54D	8.8	38+	51	53S	104		Twilight
	7:01:07D	8.7	38+	44	70N	46		
27	6:42:08D	8.9	48+	54	66S	91		
	7:58:07D	8.8	48+	46	35S	121		
28	7:26:55D	8.2	58+	58	65S	92		
	9:42:51D	4.4	58+	39	57N	34	εPsc	
	10:45:08R			27	-51N	286		Difficult
	10:49:09D	8.5	59+	27	83S	74		
29	7:21:40D	7.0	62+	63	70S	89	300 B. Psc	
	10:31:34D	5.9	68+	40	24S	135	54 Cet	
	12:33:37D	7.4	68+	17	64S	95		A.M. time
30	8:21:57D	8.3	76+	66	36S	125		
	9:54:48D	8.2	76+	56	80S	82		

\* Times are PM except as noted.

The time of an occultation is a measure of the position of the moon at that instant. Note that λGem is on the list again this month. Thus at the corresponding times the moon is in the same place in the sky.

I have omitted most of the Reappearances in order to make room for Disappearances, which are both easier to observe and occur at more convenient times. Will anyone attempting any Rs please contact, call, or write to me, so I know to retain them. Else I'll omit most of the Rs from now on.

I've extended the magnitude limits after Christmas so that all those with new scopes can at last try some occultations. Some are a bit dim, but should be visible with a six inch. If anyone attempts these dimmer 7.5 to 9 mag. stars, contact me so I know to retain them in future Occulting Zones.

GREAT YELLOW SPOT OF JUPITER

The spot remains yellowish and so has poor contrast against the enclosing belts. But the spot can be found by observing the dents made in the belts N and S of it. Try to observe this rather unusual configuration.

(Continued)

A SECOND EVENT...Big White Spot

At the October star party, a big white spot was discovered on Jupiter, about half the size of the Red Spot but easy to see. It's in the south tropical zone about the same latitude as the Red Spot, but preceding it by about three hours, and moving away from it. However, its motion is quite erratic, so the prediction is shaky. Be sure to look early; the spot may have jumped bail again. Spots like this may last several months, or a few days, so quick, get out and look for it.

Watch for Jupiter close to the moon Dec. 4 evening; South America got an occultation about 4 PM, PST.

The satellite notes warn of a satellite or shadow on the planet. The white spot is far larger than satellites. Study the Sky & 'Scope satellite chart to better understand these notes.

Jim Van Nuland  
3509 Calico Ave  
S. J. 95124  
(408) 371-1307

Red Spot times

da	mo	d	h	m
W	12	1	3	34 AM
W	12	1	11	25 PM
11:53 II Sh.E.				
Th	12	2	7	17 PM
Sa	12	4	1	3 AM
Sa	12	4	8	55 PM
M	12	6	2	42 AM
M	12	6	10	33 PM
Tu	12	7	6	24 PM
7:14 I Ec. R.				
Th	12	9	0	11 AM
10:54 ITrI; 11:58 II ShI				
Th	12	9	8	3 PM
Sa	12	11	1	49 AM
Sa	12	11	9	41 PM
M	12	13	11	19 PM
11:08 ITrE; 11:47 IShE				
Tu	12	14	7	10 PM
I Behind Jupiter				
Th	12	16	0	57 AM
1:11 II Tr. I.				
Th	12	16	8	49 PM
Sa	12	18	2	35 AM
Sa	12	18	10	27 PM
Star Party Night				
Su	12	19	6	18 PM
6:25 II Sh. E.				
Tu	12	21	0	5 AM
11:33 IShI; 0:54 ITrE				
Tu	12	21	7	56 PM
8:05 I Oc. D.				
Th	12	23	1	43 AM
Th	12	23	9	35 PM
Sa	12	25	11	13 PM
10:40 III Sh. E.				
Su	12	26	7	4 PM
6:30 II Sh. I;				
7:11 IITrE; 9:01 II ShE				
Tu	12	28	0	51 AM
0:32 ITrI; 1:28 IShI				
Tu	12	28	8	42 PM
Th	12	30	10	21 PM
F	12	31	6	12 PM

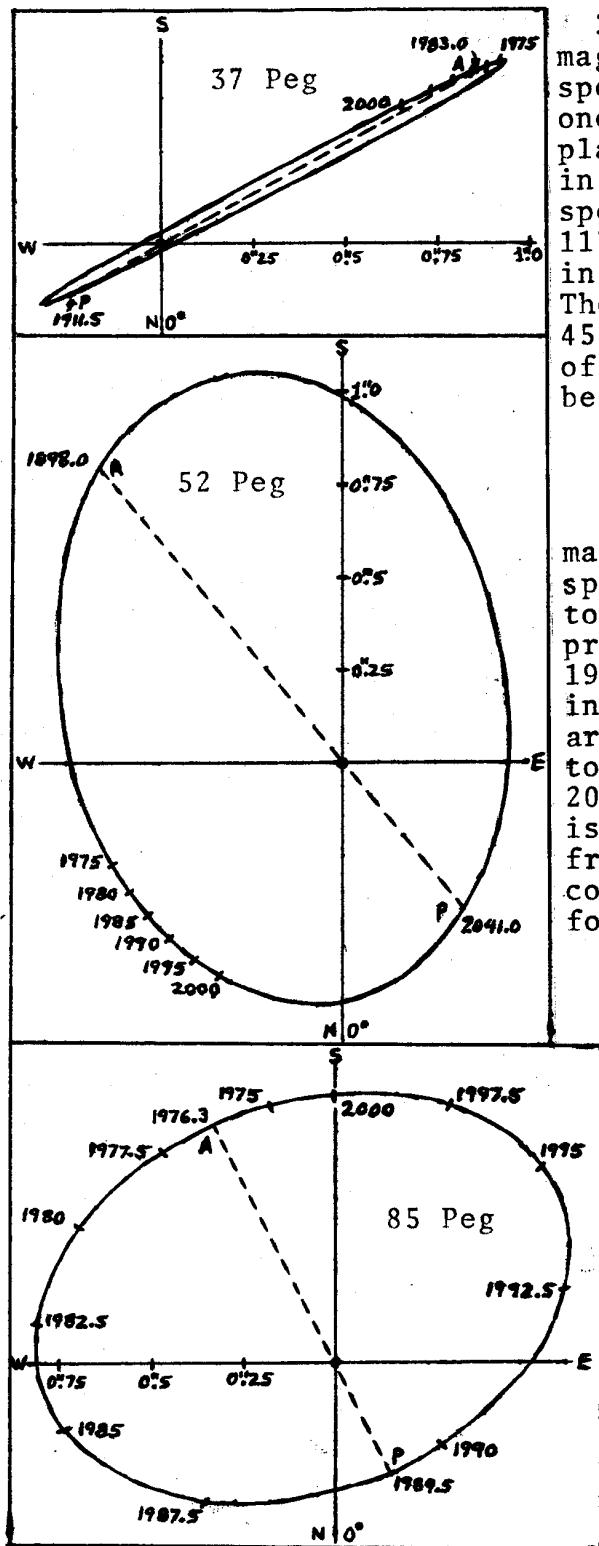
White spot times

da	mo	d	h	m
W	12	1	0	31 AM
W	12	1	8	21 PM
8:38 II Tr. I.				
F	12	3	2	6 AM
F	12	3	9	57 PM
Sa	12	4	5	47 PM
Su	12	5	3	42 AM
2:57 ITrE; 3:24 IShE				
Su	12	5	11	32 PM
M	12	6	7	22 PM
7:14 ITrI; 7:43 IShI				
W	12	8	1	8 AM
W	12	8	8	58 PM
F	12	10	2	43 AM
F	12	10	10	34 PM
Sa	12	11	6	24 PM
M	12	13	0	9 AM
M	12	13	7	59 PM
8:59 I Tr. I.				
W	12	15	1	45 AM
1:54 III Oc. D.				
W	12	15	9	35 PM
F	12	17	11	10 PM
11:16 II Ec. R.				
Sa	12	18	7	1 PM
6:26 III ShI; 8:39 ShE				
Star Party night				
M	12	20	0	46 AM
M	12	20	8	36 PM
W	12	22	2	22 AM
W	12	22	10	12 PM
Th	12	23	6	2 PM
5:33 I Ec. R.				
F	12	24	11	47 PM
Sa	12	25	7	38 PM
6:52 III TrI; 8:53 III TrE				
M	12	27	1	23 AM
M	12	27	9	13 PM
W	12	29	10	49 PM
10:07 I Sh. E.				
Th	12	30	6	39 PM

The Orbits of Visual Binary Stars . . contributed by Gerald W. Rattley

Elements of the orbits as listed in the Third Catalogue of the Orbits of Visual Binary Stars by W. S. Finsen and C. E. Worley, 1970.

star	1975 pos	P	T	e	a	i	$\omega$	$\Omega$
name	RA	dec	yrs	yr	"	$^{\circ}$	$^{\circ}$	$^{\circ}$
37 Peg	22 28.7	+04 19	143	1911.5	0.56	0.746	87.58	213.08
52 Peg	22 58.0	+11 36	286	1755	0.33	0.88	44.6	212.6
85 Peg	00 00.9	+26 57	26.386	1963.057	0.3781	0.8032	49.0	93.782
								290.954



37 Pegasi;  $\Sigma$  2912 (ADS 15988); component magnitudes are 5.7 and 7.0 with the system spectra being dF2. The orbit is a reliable one computed by T. Jastrzebski in 1960. The plane of the orbit of this binary is nearly in the line of sight and thus the companion spends much of its orbital time around P.A.  $117^{\circ}$ . Maximum separation of  $1.^{''}06$  was reached in 1965 and the pair is presently closing. The distance of this system from the Sun is 45 parsecs and the mean separation in orbit of the components is 34 a.u. Apastron will be passed in 1983. Ephemeris for 37 Pegasi:

1975	$117^{\circ}9$	$1.^{''}04$	1990	$118^{\circ}7$	$0.^{''}90$
1980	$118.1$	$1.00$	1995	$119.0$	$0.83$
1985	$118.4$	$0.96$	2000	$119.4$	$0.75$

52 Pegasi;  $\Sigma$  483 (ADS 16428); component magnitudes are 6.1 and 7.4 with a system spectra of F0. The companions color supposed to be somewhat reddish. The orbit is a premature computation by U. Güntzel-Lingner, 1956. The last maximum of this system occurred in 1865 and will not be reached again until around 2150. Presently the pair is closing to minimum,  $0.^{''}45$ , which will be reached around 2055. Maximum is  $1.^{''}09$ . Periastron passage is due in 2041. This system is 100 parsecs from the Sun and the true separation of the components in orbit is 88 a.u. Ephemeris for 52 Pegasi:

1975	$293^{\circ}9$	$0.^{''}68$	1990	$315^{\circ}5$	$0.^{''}67$
1980	$301.0$	$0.68$	1995	$322.7$	$0.67$
1985	$308.2$	$0.67$	2000	$330.0$	$0.67$

85 Pegasi;  $\beta$  733 (ADS 17175); component magnitudes are 5.9 and 9.0 with a system spectra of dG1. This is a close rapid binary system, with the ephemeris given below covering nearly a complete revolution. The orbit computed by R. Wielen in 1962 is very definitive. In the present orbit, two maxima and two minima will occur as follows:

Maxima;  $0.^{''}78$  in 1996 and  $0.^{''}82$  in 1982 $\frac{1}{2}$

Minima;  $0.^{''}33$  in 1989 $\frac{1}{2}$  and  $0.^{''}72$  in 1975

Apastron passage is next due in 1976 $\frac{1}{2}$  and the next periastron passage will occur in mid-1989. This system is 11 parsecs from the Sun and has a true separation in orbit of 9 a.u. Ephemeris for 85 Pegasi:

1975	$194^{\circ}0$	$0.^{''}72$	1990	$52^{\circ}3$	$0.^{''}36$
1980	$242.0$	$0.79$	1995	$133.7$	$0.77$
1985	$283.8$	$0.75$	2000	$180.0$	$0.73$