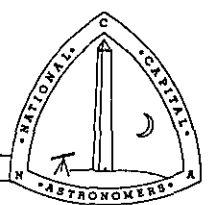


421.511

U. S. NAVAL OBSERVATORY COMPLETE LUNAR OCCULTATION PREDICTIONS COMPUTED FOR WASHINGTON (LAT 38,920 LONG 77,065) FOR 1968, STANDARD STATION AT LAT 38,920 LONG 77,065 (DISTANCE = 0 MILES)

DATE	TIME (U)	ACC	V	D	Z.C.	USNO REF NO	S.A.O. MAG	S.P.	PH	PERCENT	ELG	PA	DUSP	VA	MOON SUN AA	L'ONATION	MIN					
	H	M	S	SEC							DEG	ANGL	DEG	ALT	AZT	ALT	DEG	LAT	MAG			
SEP 29	1 22	44	23	2	5	Z18348	186615	8.7	B9	D	48	WAX	87	158	215	129	13	213	160	2.7	7.6	
SEP 29	1 54	13	6	2	3	A Z18391	186646	9.0	K0	D	48	WAX	88	43	44N	9	10	219	45	2.6	7.6	
SEP 29	1 59	31	10	2	5	Z18396	186691	8.2	K0	D	48	WAX	88	140	395	105	9	220	142	2.6	7.5	
SEP 29	1 57	14	5	1	3	Z18404	186657	9.0	G5	D	48	WAX	88	55	59N	24	10	219	60	2.6	7.6	
SEP 29	2 4	33	5	1	2	Z18418	186666	9.2	K5	D	48	WAX	88	76	69N	32	9	221	70	2.6	7.5	
SEP 29	2 15	2	5	1	2	Z18432	186676	9.2	K0	D	48	WAX	88	76	78N	39	8	222	77	2.6	7.5	
SEP 29	2 48	29	7	1	1	Z18451	186688	9.0	K2	D	48	WAX	88	32	34N	350	3	228	34	2.5	7.5	
SEP 29	2 47	31	10	2	1	Z18458	186694	8.8	K2	D	48	WAX	88	138	405	96	3	228	140	2.5	7.5	
SEP 29	23 19	54	12	2	6	Z20090	187948	8.5	K0	D	59	WAX	100	144	215	150	22	173	-6	131	4.0	7.7
SEP 29	23 17	27	6	2	4	Z20092	187949	8.4	K2	D	59	WAX	100	41	50N	48	25	172	-5	49	4.0	7.7
SEP 29	23 52	29	14	2	7	Z20104	187958	9.0	G0	D	59	WAX	100	8	17N	7	23	181	-12	15	3.9	7.6
SEP 29	23 31	28	7	2	7	Z20114	187965	8.8	F8	D	59	WAX	100	121	50S	126	22	175	-8	129	4.0	7.6
SEP 29	23 46	25	11	2	7	A Z20119	187969	8.8	G0	D	59	WAX	100	142	295	143	22	179	-11	149	3.9	7.6
SEP 30	0 36	9	9	2	8	Z20156	188000	8.6	K0	D	59	WAX	100	131	405	123	22	189	139	3.8	7.6	
SEP 30	0 38	23	10	2	8	Z20163	188007	8.5	K0	D	59	WAX	100	133	385	123	22	191	151	3.8	7.6	
SEP 30	0 40	37	5	2	8	Z20170	188013	8.6	G9	D	59	WAX	100	72	81N	62	22	191	80	3.8	7.6	
SEP 30	2 22	20	7	2	4	Z20242	188066	9.4	M3	D	60	WAX	101	28	37N	359	15	213	36	3.6	7.5	
SEP 30	2 27	53	7	2	6	Z20250	188073	8.5	K0	D	60	WAX	101	30	39N	0	14	214	37	3.5	7.5	
SEP 30	2 30	24	6	9	2031	Z20258	188079	5.9	B3	D	60	WAX	101	40	49N	10	14	215	48	3.5	7.5	
SEP 30	3 30	51	9	4	5	Z20274	188090	9.0	K0	D	60	WAX	101	92	79S	62	14	215	100	3.5	7.5	
SEP 30	3 32	9	2	3		Z20278	188094	9.0	K0	D	60	WAX	101	12	21N	337	10	221	20	3.5	7.4	
SEP 30	2 49	0	0	2	4	Z20294	188103	9.2	G0	D	60	WAX	101	98	73S	65	12	218	105	3.5	7.4	
SEP 30	3 3	35	0	2	3	Z20309	188114	9.1	A0	D	60	WAX	101	64	73N	20	10	221	71	3.5	7.4	
SEP 30	3 30	4	6	2	2	Z20317	188119	9.3	F5	D	60	WAX	101	33	42N	354	7	226	41	3.4	7.4	
SEP 30	3 40	23	2	1		Z20330	188131	9.2	F5	D	60	WAX	101	121	50S	80	5	227	129	3.4	7.3	

★ STAR DUST



September 1968

Vol. XXVI, No. 1

THE CHASE OF THE TRANS-URANIAN PLANET



Mr. Dennis Rawlins

Our speaker for September is Dennis Rawlins, who in December 1967 spoke to NCA on the discovery of Uranus. Now Mr. Rawlins will continue the drama of planetary discovery.

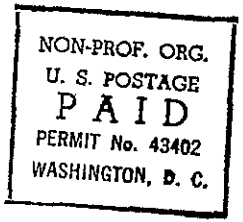
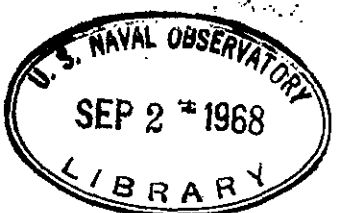
For almost sixty-five years after the discovery of Uranus in 1781, mathematical and observational astronomers wrestled with the question of the existence of a planet beyond this first planet to be "discovered." Mr. Rawlins draws on unpublished documents from Cambridge and Paris to provide a unique analytical account of the events leading to discovery of Neptune in 1846. In doing so, he emphasizes that an international competition to achieve this discovery developed which was, for its day, as intense as competition in space travel is our own. Particularly interesting is the interaction of theoretical and observational methods which led to ultimate success, for such interaction is the hallmark of modern astronomy and astrophysics.

Mr. Rawlins is instructor of Physics at Notre Dame College, Baltimore, specializes in the history of astronomy, and is active in the Baltimore Astronomical Society. He holds physics degrees from Harvard and Boston Universities.

CALENDAR

- SEPTEMBER 7 DINNER WITH THE SPEAKER. For further information, call Bill Winkler - 736-3553.
- 7 THE CHASE OF THE TRANS-URANIAN PLANET by Mr. Dennis Rawlins 8:15 P.M. in the Dept. of Commerce Auditorium. Business Meeting follows.
- 7 JUNIOR DIVISION GENERAL MEETING 7:15 P.M. in the Dept. of Commerce Auditorium. All Juniors who wish to be considered active, please attend.
- 21 DISCUSSION GROUP - ROUNDTABLE DISCUSSION on summer conventions. 8:15 P.M. in Dept. of Commerce.
- 22 PRINCE GEORGES JUNIORS MEETING at the home of Ted Noble in Crofton. Please call for further information. 301 721-2225

* STAR DUST Published monthly except August by and for members of the NATIONAL CAPITAL ASTRONOMERS, INC., a non-profit public service organization promoting interest and education in astronomy and related sciences. President, George E. Gould; Vice President, William R. Winkler; Secretary, Mrs. Nora Keel; Treasurer, Jerome Schmall; Trustees, Mrs. Margaret Noble, Roy J. Wallis, James Sharpe, Sterling Anderson; Editor, Mrs. Ellen Stolarik; Typist, Mrs. Anna Lee Tucker; Photography and Production, Darrel J. Freund.



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REPORT OF AUDIT COMMITTEE

STATEMENT OF INCOME AND EXPENSES

July 1, 1967 - June 30, 1968

<u>INCOME</u>		<u>EXPENSES</u>	
Dues	\$1,290.67	Sky & Telescope	\$697.64
Observer's Handbook	53.90	Stardust & Directory	511.53
Graphic Time Table	11.25	Lecture Meetings	105.57
TOTAL INCOME	\$1,355.82	Treasurer & Supplies	45.97
Balance, July, 1967	432.56	Publicity	14.09
		Observer's Handbook.....	51.25
		Graphic Time Table	37.50
		Astro. League Dues.....	43.00
		Misc.	10.30
Less expenses	\$1,788.38	TOTAL EXPENSES	\$1,516.85
	1,516.85		
Balance	\$ 271.53		

JUNE'S JUNIOR DIVISION MEETING

Despite difficulties in reaching quorum, a number of amendments to the Junior Division by-laws were passed. These included definitive statements concerning active member- and a lowering of the quorum from ten to eight. Provisions were also made for executive committee meetings and executive expenditure restraints.

Vice President, Sam Bacasse, reported on the tentative radio advertising of exploring the Sky programs, and the idea of NCA sponsored astronomy lectures and star parties for various youth organizations was proposed. Provision was made for a form letter concerning such activities to be composed by the Secretary-Treasurer.

Finally it was suggested that an updated NCA brochure be compiled; this idea was submitted to the Senior Division during the regular business meeting.

One reason for the formation of any club or organization is to bring together everyone's ideas for the interests and advancement of the group. The necessity of lowering quorum reflects the poor attendance of past Junior Meetings. Those who would complain that nothing is ever accomplished, can do something about this, if they are genuinely interested, by attending meetings and adding their voice and vote to the others.

See you all in September.

- Ken Crowley
Sec.-Treas. Junior Division

U. S. NAVAL OBSERVATORY COMPLETE LUNAR OCCULTATION PREDICTIONS COMPUTED FOR WASHINGTON (LAT 38.920 LONG 77.065) FOR 1958; STANDARD STATION AT LAT 38.920 LONG 77.065 (DISTANCE = 0 MILES)

Table with columns: DATE, TIME(UT), ACC, V D Z.C., USNO S.A.A.O. MAG, SP, PW, PERCENT ELG, PA, CUSP VA, MOON SUN AZI, LIBRATION MIN, SUN ALT, DEG LONG, LAT, WGT. Rows list occultation events for September 1958, including dates, times, magnitudes, and coordinates.