GEOS
EB 13

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LIST OF MINIMA AND ACCURATE DETERMINATION OF MEAN MINIMUM FOR V 566 OPH

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1. LIST OF MINIMA

In this issue 127 minima are given;they were determined from 1977 to 1980 by the following observers :

C.	AGNESONI	I - Siena	AGN
R.	BONINSEGNA	B - Dourbes	BNN
A.	BUZZONI	I - Ferrara	BUZ
M.	FRANCHINI	I - Cerro Maggiore	FCH
J.F.	LE BORGNE	F - Toulouse	FLB
P.	MATAGNE	B - Bruxelles	MAT
E.	NEZRY	F - Toulouse	NZY
C.	PAMPALONI	I - Firenze	PMP
M.	PENNA	I - Asti	MPN
E.	PORETTI	I - Arconate	POI
Ph.	RALINCOURT	F - Nantes	RAL
A.	ROYER	F - Epinac	ROY

The table gives the current number,the star designation,the order of the minimum,the heliocentric time,the O-C,the number of visual estimates and the initials of the observer.Imprecise timings are marked ":". The O-C's are referred to the linear elements published in the GCVS 1969,except for RW Com (GCVS 1971),VW Cep,EQ Tau,W UMa,ER Vul (GCVS 1976),UW CMa,CW Cep (SAC n°55),NN Cep (IBVS 1881),all stars for which these elements are either missing or too imprecise.

The methods of reduction used are all based on symmetry : the timings have been analysed to palliate possible systematic errors caused by the different methods used.

REMARKS - AB And : the given minimum is the mean of 3 individual minima (O-C : +0.042,+0.012,+0.032) observed by ROY from JD 2443425 to JD 2443433 ;
VW Cep : the first 7 minima (observer POI) have been

forgotten in the print of GEOS EB 6 ; in the GEOS EB 9 other minima have been published ;

AH Tau : the given minimum is the mean of 4 individual minima (O-C : -0.034;-0.017;-0.022 ; -0.015) observed by ROY from JD 2443482 to JD 2443496 ;

EQ Tau : the given minimum is the mean of 2 individual minima (O-C : +0.013,+0.003) observed by ROY at JD 2443482 and JD 2443496 .

2. MEAN MINIMUM OF V566 OPH

O-C's published in the present GEOS EB and in the previous EB 3 and EB 6 show that the period given by GCVS 1969 (0.40964101 d) is too short.It is not possible to calculate a mean O-C in the interval 2442500 - 2444800 because a drift is present. For this reason,O-C's have been recalculated with the aim of the ephemeris published by the SAC n°55 (1984), that gives a period more satisfactory :

Min I = JD hel. 2443281.5034 + 0.409644660 x E

Proceeding as described in the GEOS EB 6,the following data have been calculated :

Obs	n_i	$O-C_i$	s_i	p_i	w_i
BNN	2	0.0000	0.0042	0.0030	11
BUZ	5	-0.0066	0.0039	0.0017	35
FGR	3	-0.0003	0.0085	0.0049	4
MPN	2	-0.0180	0.0141	0.0100	1
PMP	6	-0.0018	0.0056	0.0023	19
POI	13	-0.0081	0.0081	0.0022	21
RAL	24	+0.0012	0.0072	0.0015	44

in which all O-C's are referred to the ephemeris of the SAC .

The weighted means $O-C_w$ = -0.0029 $\simeq$ -0.003 and p_w = $\pm$0.0009 $\simeq$ $\simeq$ 0.001 d can be calculated.

Starting from the published minima,we determine thus the following elements :

MEAN MINIMUM (1976-1981)	: JD hel.	2443700.569	± 0.001
O-C SAC n°55	:	- 0.003	± 0.001 d
O-C GCVS 1969	:	+ 0.035	± 0.001 d

The secondary minimum has been assumed to take place at 0.5 phase.

REMARK - As a rule,the s_i of an observer with few minima is imprecise and a mean value is preferable. However,in this case,the large p_i's make negligible the contributions of these observers : from the observers with $n_i > 4$ we obtain $\overline{O-C} = -0.003 \pm 0.001$ d again .

3. ERRATA

In the GEOS EB 6 the observer of the minimum n°188 is RAL (not MPN) .

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233	AB	And	II	3430.298	+0.029		ROY
234	OO	Aql	II	3699.603	-0.048	15	NZY
235	UW	CMa	II	3946.331	0.000	10	NZY
236			I	4282.398	-0.028	10	NZY
237	VW	Cep	II	3041.517	-0.003	14	POI
238			II	3042.353	-0.002	13	POI
239			I	3042.492	-0.002	16	POI
240			II	3059.329	-0.003	15	POI
241			I	3060.301	-0.006	15	POI
242			II	3061.278	-0.003	17	POI
243			I	3062.255	0.000	13	POI
244			I	3639.476	-0.006	14	RAL
245			I	3654.502	-0.009	22	RAL
246			II	3657.433	0.000	11	RAL
247			I	3657.557:	-0.016	10	RAL
248			I	3659.508:	-0.013	16	RAL
249			II	3685.534	-0.009	20	RAL
250			I	3688.466	0.000	26	RAL
251			II	3770.425:	-0.005	13	RAL
252			II	3845.296	-0.001	16	RAL
253			II	3957.447	-0.011	14	RAL
254			II	4013.398	-0.002	18	RAL
255			I	4014.367	-0.007	21	RAL
256			I	4043.447	-0.011	20	RAL
257			II	4045.394	-0.012	24	RAL
258			I	4046.368	-0.012	19	RAL
259			II	4046.512	-0.007	17	RAL
260			II	4047.344:	-0.010	13	RAL
261			II	4048.457	-0.011	18	RAL
262			II	4167.306	-0.003	19	RAL
263			I	4207.234:	-0.013	7	RAL
264			I	4464.399	-0.012	14	RAL
265			II	4464.526:	-0.024	20	RAL
266			I	4467.460	-0.012	15	RAL
267			I	4468.561	-0.025	24	RAL
268			I	4469.413:	-0.008	22	RAL
269			II	4470.392:	-0.003	16	RAL
270			I	4547.335	-0.014	20	RAL
271			I	4554.288	-0.019	19	RAL
272			I	4574.326	-0.020	17	RAL
273	CW	Cep	I	3173.29	-0.04	15	MPN
274			I	3293.40	-0.01	9	MPN
275			II	3308.38	-0.04	7	MPN
276			I	3342.54:	0.00	16	MPN
277			II	3420.28	-0.04	5	MPN
278			I	3495.33	-0.04	10	POI
279			I	4835.37	-0.00	14	MAT
280	NN	Cep	II	3306.368	-0.014	6	MPN
281			I	3307.390	-0.021	9	MPN
282			I	3344.476	+0.015	13	POI
283			I	3410.315	-0.012	5	MPN
284			I	3449.410	-0.024		PMP
285	V1073Cyg		I	3722.521:	+0.005	14	RAL
286			II	3731.542	-0.011	13	RAL
287	RW	Com	II	4704.423	-0.001	16	BNN
288			I	4704.538	-0.004	13	BNN
289	TX	Her	II	3659.381	-0.001	30	AGN
290			II	3729.412	-0.004	37	BUZ
291	AK	Her	I	3685.398	-0.026		BUZ
292			II	3713.420	-0.035		BUZ
293			II	3732.396	-0.028		BUZ
294			II	3759.375	-0.026		BUZ
295	AM	Leo	I	4014.372	-0.040	16	RAL
296	V566	Oph	II	3688.496	+0.046	26	RAL
297			II	3718.379	+0.025		BUZ
298			II	3718.396	+0.042	22	RAL
299			I	3723.513:	+0.039	12	RAL
300			I	3726.379:	+0.037	25	RAL
301			II	3729.449	+0.035		BUZ
302			II	3729.461	+0.047	15	RAL
303			II	3729.462	+0.048	13	FCH
304			I	3730.485	+0.047	20	RAL
305			II	3731.508:	+0.046	20	RAL
306			I	3774.302	+0.032		BUZ
307			I	3781.269	+0.035		BUZ
308			II	3782.287	+0.029		BUZ
309			I	4016.402	+0.034	10	RAL
310			I	4043.448	+0.044	31	RAL
311			I	4048.362	+0.042	20	RAL
312			II	4078.471:	+0.043	8	RAL
313			II	4101.417	+0.049	13	RAL
314			II	4463.530	+0.039	15	RAL
315			II	4466.404	+0.046		PMP
316			II	4468.463	+0.056	30	RAL
317			II	4470.502	+0.047	21	RAL
318			II	4774.449	+0.041		PMP
319			II	4788.391	+0.055		PMP
320			I	4814.406	+0.058		PMP
321			II	4815.423	+0.051		PMP
322			I	4818.493	+0.048		PMP
323	V839	Oph	I	3369.466	+0.021		FLB
324			II	3370.481	+0.013		FLB
325	AH	Tau	I	3491.253	-0.022		ROY
326	EQ	Tau	II	3483.281	+0.008		ROY
327	W	UMa	II	3465.484	+0.013	14	RAL
328			I	3510.360	+0.015		PMP
329			II	3510.521	+0.009		PMP
330			I	3514.356	+0.007		PMP
331			II	3514.524	+0.009		PMP
332			I	3515.357	+0.007		PMP
333			I	3517.351	0.000		PMP
334			I	3540.372	0.000		PMP
335			I	3571.401	0.000		PMP
336			I	3572.411	+0.010	26	RAL
337			I	3574.413	+0.010	25	RAL
338			I	3575.405	+0.001		PMP
339			I	3578.422	+0.015	29	RAL
340			I	3589.426	+0.009	25	RAL
341			I	3590.420	+0.002		PMP
342			I	3595.424	+0.002		PMP
343			I	3614.443	+0.003	24	RAL
344			I	3639.473	+0.011	18	RAL
345			I	3654.490	+0.014	26	RAL
346			I	3657.488	+0.009	25	RAL
347			I	3658.496	+0.016	22	RAL
348			I	3659.496	+0.015	23	RAL
349			I	3685.515	+0.011	15	RAL
350			I	3688.514	+0.007	31	RAL
351			I	3891.368	+0.010	18	RAL
352			II	4574.498	+0.018	13	RAL
353	AW	UMa	I	3657.483:	+0.006	14	RAL
354			I	3958.448	+0.001	12	NZY
355			I	4016.368	+0.008	8	RAL
356			II	4021.405	0.000	9	RAL
357	ER	Vul	I	3726.494	-0.005	10	RAL
358			I	3731.391	+0.005		BUZ
359			I	3774.307	-0.012		BUZ