

The figures in the table of mean positions do not show a perfectly regular progression of the radiant but this is due to the errors of observation which are naturally considerable in this field of work and cannot be eliminated. In a general way however the results exhibit in a very decided manner the change of about  $1^\circ$  per day in the place of the radiant and this feature of the shower may be regarded as settled from an observational point of view.

Bristol 1897 Sept. 30.

The display certainly endures for a month, probably for a longer period, and we now require further observations during the last half of July as in recent years comparatively few observers have watched the shower at this early period of its visibility.

In 1898 the July Perseids may perhaps be favourably seen as the moon will offer little interference until the close of the month.

*W. F. Denning.*

### Oppositions - Ephemeride für (29) Amphitrite.

Die Ephemeride ist berechnet nach den Tafeln des Herrn Prof. E. Becker von Herrn Dr. *J. Riem.*

12<sup>h</sup> M. Z. Berlin.

1897-98	Wahre AR.	Wahre Decl.	log $\Delta$	Ab.-Z.	1898	Wahre AR.	Wahre Decl.	log $\Delta$	Ab.-Z.
Dec. 12	5 <sup>h</sup> 53 <sup>m</sup> 34 <sup>s</sup> .01	+33° 45' 43".7	0.152141	11 <sup>m</sup> 46 <sup>s</sup>	Jan. 1	5 <sup>h</sup> 31 <sup>m</sup> 7 <sup>s</sup> .76	+33° 23' 36".1	0.162858	12 <sup>h</sup> 3 <sup>s</sup>
13	52 24.88	33 46 9.1	151837	46	2	30 9.45	33 21 0.2	163175	5
14	51 15.43	33 46 24.1	151617	46	3	29 12.64	33 18 17.9	164562	7
15	50 5.64	33 46 28.9	151483	45	4	28 17.38	33 15 29.3	166020	9
16	48 55.65	33 46 23.5	151434	45	5	27 23.74	33 12 34.6	167546	12
17	47 45.48	33 46 8.3	151466	45	6	26 31.82	33 9 33.9	169137	15
18	46 35.25	33 45 43.3	151581	46	7	25 41.64	33 6 27.9	170792	18
19	45 25.07	33 45 8.4	151781	46	8	24 53.24	33 3 16.9	172512	21
20	44 15.07	33 44 23.6	152064	46	9	24 6.68	33 0 1.7	174292	24
21	43 5.38	33 43 29.2	152432	47	10	23 22.04	32 56 42.7	176130	27
22	41 56.09	33 42 25.1	152885	48	11	22 39.31	32 53 19.8	178025	30
23	40 47.28	33 41 11.5	153422	49	12	21 58.55	32 49 53.1	179974	33
24	39 39.10	33 39 48.7	154040	50	13	21 19.78	32 46 23.0	181979	37
25	38 31.65	33 38 16.9	154739	51	14	20 43.09	32 42 50.1	184035	40
26	37 25.02	33 36 36.1	155520	52	15	20 8.45	32 39 14.8	186141	44
27	36 19.30	33 34 46.7	156383	53	16	19 35.90	32 35 37.7	188298	48
28	35 14.58	33 32 48.2	157325	55	17	19 5.47	32 31 59.2	190501	52
29	34 11.01	33 30 42.2	158344	57	18	18 37.21	32 28 19.7	192747	12 56
30	33 8.64	33 28 27.8	159439	11 59	19	18 11.10	32 24 39.2	195038	13 0
31	32 7.52	33 26 5.6	161612	12 1	20	17 47.16	32 20 57.5	197371	4
Jan. 1	5 31 7.76	+33 23 36.1	0.162858	12 3	21	5 17 25.41	+32 17 15.3	0.199745	13 8

Opposition in AR. 1897 Dec. 18. Grösse = 8<sup>m</sup>8.

Berlin, Kgl. Astr. Recheninstitut, 1897 Nov. 27.

*J. Bauschinger.*

### Elemente und Ephemeride des Planeten 1897 DK.

Von *A. Berberich.*

Die Elemente sind berechnet aus Nov. 18, 25, 30 München.

Epoche 1897 Nov. 30.5 M. Z. Berlin.

$$\begin{array}{lcl}
 M = 24^\circ 29' 57''.0 & & \varphi = 9^\circ 28' 28''.5 \\
 \omega = 16 \ 42 \ 6.9 & & \mu = 1006''.757 \\
 \Omega = 17 \ 28 \ 2.2 & \left. \begin{array}{l} \\ \\ \end{array} \right\} 1897.0 & \log a = 0.364721 \\
 i = 6 \ 18 \ 34.2 & & 
 \end{array}$$

Ephemeride für 12<sup>h</sup> M. Z. Berlin.

1897	$\alpha$ app.	$\delta$ app.	log $r$	log $\Delta$	1897	$\alpha$ app.	$\delta$ app.	log $r$	log $\Delta$
Dec. 16	3 <sup>h</sup> 56 <sup>m</sup> 53 <sup>s</sup>	+30° 37'.9	0.3012	0.0259	Dec. 22	3 <sup>h</sup> 52 <sup>m</sup> 42 <sup>s</sup>	+30° 22'.7		
18	55 21	30 33.2			24	51 37	30 17.5	0.3034	0.0459
20	3 53 57	+30 28.0			26	3 50 42	+30 12.3		