Beobachtungen des Winnecke'schen Cometen, von Herrn Th. Wolff.

Ringmikrometer - Beobachtungen.

1869 April 14	10 ^h 58 ^m 14 ^s m. Zt. Bonn.	AR = 10 ^h 22 ^m 44 ^s 7,	Decl. = +34°55'40".	Vergl.-Stern	<i>a</i>	5 Durchgänge,
28	10 22 47	10 1 34,4	+36 30 36		<i>b</i>	6 "
29	10 33 57	10 0 21,93	+36 34 48,5		<i>c</i>	8 "
30	10 14 50	9 59 13,61	+36 38 14,4		<i>d</i>	6 "
Mai 1	10 19 38	9 58 7,50	+36 41 10,3		<i>e</i>	8 "
5	10 31 53	9 54 8,56	+36 50 29,6		<i>f</i>	8 "
	10 29 46	54 9,28	50 3,4		<i>c</i>	4 "
7	9 58 13	9 52 24,30	+36 53 47,5		<i>f</i>	4 "
	10 33 11	+ 1 21,05	— 2 25,1		<i>g</i>	8 "
8	10 35 53	+ 0 30,34	— 1 27,7		<i>g</i>	4 "
14	10 18 10	AR = 9 47 14,91	+36 57 26,3		<i>h</i>	8 "
Juni 5	10 54 3	9 27 41,53	+36 51 42,9		<i>i</i>	8 "

Heliometer - Beobachtungen.

		— Stern.	— Stern.				
1869 Juni 1	11 ^h 35 ^m 37 ^s .	$\Delta\alpha = +105^s91,$	$\Delta\delta = +1262''3,$	AR = 9 ^h 33 ^m 28 ^s 71,	Decl. = +36°51'20''5	<i>k</i>	8 Einst.
6	10 32 18	— 15,66	— 405,6	9 25 55,48	+36 51 56,9	<i>l</i>	12 "
7	10 36 15	+ 17,93	— 494,7	9 23 57,44	+36 52 3,0	<i>m</i>	12 "

Mittlere Oerter der Vergleichsterne für 1869,0.

AR				Decl.		AR				Decl.	
<i>a</i>	W ₂ X. 456	9 ^m 0	10 ^h 23 ^m 22 ^s 5	+34°48'	51"	<i>g</i>	B.D.M.+36°. 2015	9 ^m 4	9 ^h 51 ^m 1'8	+36°56'	0
<i>b</i>	W ₂ X. 26	9.0	10 3 25,79	+36 30	27,9	<i>h</i>	W ₂ IX. 918f20	7.3	9 44 24,00	+36 55	4''2
<i>c</i>	W ₂ IX. 1166f67	8.5	9 55 48,29	+36 35	7,4	<i>i</i>	W ₂ IX. 653f55	8.9	9 27 29,96	+36 52	23,1
<i>d</i>	W ₂ IX. 1175	9.1	9 56 15,68	+36 38	54,8	<i>k</i>	W ₂ IX. 654f55	8.7	9 31 43,12	+36 30	15,1
<i>e</i>	W ₂ IX. 1169f71	9.2	9 56 0,24	+36 41	2,6	<i>l</i>	10 Leonis min.	4.8	9 26 11,56	+36 58	39,4
<i>f</i>	W ₂ IX. 1118	7.8	9 53 44,02	+37 8	30,9	<i>m</i>	W ₂ IX. 469f70	6.8	9 23 39,94	+37 0	14,7

Die Beobachtungen von April 14 und 28 sind nicht sehr zuverlässig. Den Ort des Sternes Bonn. D. M. +36°. 2015 habe ich nach einer vorläufigen Vergleichung mit W₂ IX. 1118 (einen Durchgang) angenommen.

Note on the theory of Aberration, by Simon Newcomb.

The very important question at issue between Messrs *Klinkerfues* and *Challis* on the one hand, and Mr. *Hoek* on the other affects so fundamentally the theory of aberration that I beg leave to offer the following remarks on it. •

It has hitherto been a received doctrine of optics that the refraction of a ray by a transparent surface depends on the relative motion of the ray and the surface. As a concrete example of this doctrine I remark that it follows from it that if we wish a ray of light from a star situated 90° from the point toward which the earth is moving to enter a plane surface without suffering refraction, that surface must be made perpendicular not to the actual direction of the star, but to its apparent direction, as affected by aberration.

If this doctrine be true, neither the thickness of the object-glass, nor interposition of a medium between the glass and the ocular will affect the aberration. The behaviour of a ray of light from a star, striking an object-glass at rest will be the same as that of a ray from a star 20" distant, but occupying apparently the real position of the first star, striking the object-glass in motion.

This has been shown to follow from *Fresnel's* hypotheses respecting the density of the ether inside of transparent bodies: its motion when the body moves; and the motion of light through it. And, these hypotheses have been considered as established, at least so far as their phenomenal effects are concerned, by the experiments of *Fizeau* and *Arago*.