Gleichung des Leitstrahls mit $\frac{\cos^2 i}{\cos^2 i_0}(1+\alpha)$ multiplicire, | geht sie über in:

$$\frac{p^2}{r^4}\left(\frac{dr}{du}\right)^2\left(1-2\cos i\frac{d\vartheta}{du}\right)+\frac{p^2}{r^2}$$
$$+\frac{\cos^2 i}{\cos^2 i_0}(1+\alpha)\left(-\frac{2p}{r}+2q\left(\frac{p}{r}\right)^3-q\left(\frac{p}{r}\right)^3\sin^2 i\sin^2 u+\frac{5}{2}q\int\left(\frac{p}{r}\right)^3\sin^2 i\sin 2u\,du\right)=0.$$

(Fortsetzung folgt.)

Observations of the Satellites of Mars,

Made with the 26-inch Refractor of the U. S. Naval Observatory, Washington.
[Communicated by Rear-Admiral *John Rodgers*, Superintendent.]

Outer Satellite.

1877	Wash. M. T.	p.	No. Comp.	Wt.	Wash. M. T.	s.	No. Comp.	Wt.	Observer
Aug. 11	14h40m	59°6	2	3	14h45m	70″57	1	3	H
16	13. 7	71.9	2	3	13.12	80.83	2	3	H
17	16. 2	85.5	2	3	16.23	63.24	2	3	H
18	10.27	251.7	3	—	10.19	82.98	4	—	N
18	10.56	244.5	1	—	11. 4	81 62	1	—	Ha
18	11.48	246.5	4	3	11.56	81.76	2	3	H
18	14.33	232.1	4	3	14.40	61.04	2	3	H
19	11.44	283.2	2	3	11.51	45.94	2	3	H
19	15.44	255.4	4	2	15.52	81.35	3	2	H
20	10.29	61.0	3	3	10.34	76.05	1	3	H
20	11.57	52.1	4	2	12. 8	59.91	2	2	H
21	10.32	91.1	4	2	10.46	62.29	2	2	H
21	12.34	78.7	4	3	12.40	77.94	2	3	H
21	14. 2	71.8	4	3	14.13	82 45	4	3	H
21	15.36	64.5	4	3	16. 5	79.55	2	3	H
26	12.53	82.8	4	2	13. 3	74.25	3	2	H
26	14.15	77.3	4	2	14.24	82.27	3	2	H
26	15.42	70.5	4	2	15.49	84.32	2	2	H
27	10.37	233.1	4	2	10.47	61.28	3	2	H
28	10.38	260.8	4	4	10.45	78.70	3	4	H
28	12.24	253.6	4	4	12.33	86.19	4	4	H
30	10.34	70.8	4	3	10 43	85.07	4	3	H
Sept. 1	10.44	239.2	4	2	10.57	71.21	4	2	H
1	12.30	225.5	2	2	12.36	52.70	2	2	H
1	13.42	209.8	2	1	— —	— —	—	—	H
2	11.45	261.8	4	2	11.54	79.20	3	2	H
2	13.18	255.7	4	3	13.26	86.05	4	3	H
3	10.44	36.5	4	2	10.50	41.34	2	2	H
4	10.45	75.0	4	2	10.57	85.16	4	2	H
9	9.52	84.5	4	2	10. 3	74.53	4	2	H
9	11.55	76.3	4	2	12. 4	84.03	4	2	H
9	12.51	71.8	4	3	13. 0	84.31	4	3	H
14	10.44	86.5	4	3	10.50	71.04	2	3	H
15	10. 5	219.6	4	2	10.11	43.28	1	2	H
16	10.15	257.6	4	2	10.23	82.71	4	2	H
16	12.42	247.7	4	3	12.50	78.84	4	3	H

Inner Satellite of Mars.

1877	Wash. M. T.	p.	No. Comp.	Wt.	Wash. M. T.	s.	No. Comp.	Wt.	Observer
Aug. 17	16h 6m	73°0	2	3	16h21m	30″81	2	3	H
18	11.30	248.8	2	3	11.36	34.65	2	3	H
19	11.25	226.8	2	3	11.29	24.07	1	3	H
20	13.15	67.1	1	3	13.26	31.94	2	3	H
20					13.56	27.01	2	3	H
20					14.22	19.16	2	3	H
20					16.19	30.30	4	2	H
20					16.35	33.38	4	2	H
21	12. 1	72.4	4	3	12.10	32.84	2	3	H
21					12.27	31.31	2	3	H
21	13.16	46.5	3	1	12.50	28.06	2	3	H
21					13.19	21.85	2	3	H
21	15.19	260.9	2	3	15. 9	27.33	2	3	H
21	15.38	255 9	2	3	15.28	32.42	2	3	H
21					15 46	33.91	2	3	H
21	16.14	244.9	2	3	16.23	33 39	2	3	H
26	10.29	252.5	3	2	10.42	35.15	2	2	H
26	14.35	72.1	2	2	14.42	31.67	2	2	H
26	15.33	53.6	2	2	15.37	22.25	1	2	H
27	10.21	240 4	2	2	10.29	29 78	1	2	H
27	13.19	74.1	4	4	13.26	33.06	3	4	H
28	12.41	66.5	4	4	12.49	32.58	4	4	H
30	10.18	72.4	4	2	10.26	33.48	3	2	H
Sept. 1	12.15	250.0	4	2	12.21	35.18	2	2	H
2	11.26	246.4	4	2	11.36	33.57	4	2	H
3	10. 9	250 0	4	2	10.19	34.40	2	2	H
3	13.15	83 5	4	2	13.22	29.87	3	2	H
4	12.30	77.8	4	3	12.36	32.56	2	2	H
4	13. 5	68.9	4	3	13.11	31.97	2	3	H
14	9 57	77.0	4	3	10. 2	32.10	1	3	H
14	10.32	66.7	4	3	10.38	29.10	2	3	H
16	11.17	260.5	4	3	11.26	32.61	4	3	H

Remarks.

As several astronomers have requested copies of my observations of the Satellites of Mars, in order to compute orbits, these observations are sent for publication, although not yet completely reduced. The angles of position and the distances are not corrected for differential refraction; and, since they are referred to the apparent centre of Mars, they need small corrections for the gibbousness of the Planet. In the observations of the Inner Satellite, made on Aug. 20 and 21, where no angle of position is given, the distances need to be multiplied by the secant of the angle between the apparent line of apsides and a line drawn from the center of the planet to the Satellite.

I shall be much obliged if astronomers will publish their observations of these Satellites, or will send me a copy of them, and also their estimates of magnitudes. I hope to compute elements and to make a complete discussion of the observations.

A. Hall.

1877, September 21.