

The following was also received to-day:

„Smithsonian telegram Swift telegraphs Lohse's comet discovered by me October 10 identical with comet third eighteen hundred sixty nine.“

A comparison of the above approximate elements with those computed by Professor Bruhns for Comet III 1869 renders an identity in the highest degree probable, especially as the descriptions of that object accord with what is now visible.

Ralph Copeland.

J. G. Lohse.

Lord Lindsay's Observatory, Dun Echt, 1880 November 13.

Elemente und Ephemeride des Cometen Swift (*e* 1880).

Von K. Zelbr und Dr. J. v. Hepperger.

Circular der K. Akademie d. W. in Wien.

Bis zum Schlusse der Rechnung waren folgende Beobachtungen eingelaufen:

| | O r t | 1880 | mittl. Ortsz. | app. α | app. δ | Beobachter |
|---|------------------|-----------|--------------------------------|---------------------------------|------------------|--------------|
| 1 | Rochester (U.S.) | Octbr. 10 | ? | 21 ^h 30 ^m | +18 ^o | Swift |
| 2 | Jersey City | 21 | 7 ^h 30 ^m | 21 42 15 ^s | +25 1' | Barnard |
| 3 | Boston | 25 | 8 13.7 | 21 50 15.1 | +28 29 24''6 | Chandler |
| 4 | Boston | 28 | 7 3.3 | 21 58 4.0 | +31 18 50.0 | Chandler |
| 5 | Dunecht | Novbr. 7 | 15 30 | 22 45 54 | +42 33.7 | J. G. Lohse |
| 6 | Paris | 9 | 11 3 51 ^s | 22 59 8.33 | +44 40 7.0 | G. Bigourdan |
| 7 | Strassburg | 9 | 12 24 25 | 22 59 28.02 | +44 42 37.9 | A. Winnecke |

Durch die Beobachtung 3, sowie durch das Mittel der Beobachtungen 6 und 7 wurde eine Parabel gelegt, so dass 4 und 5 möglichst nahe dargestellt wurden; die Elemente dieser Parabel sind die folgenden:

$T = 1880$ November 8.32198 m. Zt. Berl.

$\pi = 42^{\circ} 7' 4''4$
 $\delta = 295 36 54.1$
 $i = 7 22 5.3$

$\log q = 0.042122.$

Darstellung der mittleren Orte:

$\Delta \lambda \cos \beta = -28''6 + 19''9$

$\Delta \beta = +25.0 + 7.9.$

Diese Elemente zeigen eine grosse Aehnlichkeit mit jenen des Kometen III. 1869, wie dies telegraphisch am 10. November auch von Professor Swift hervorgehoben wurde.

Ephemeride für 12^h Berliner Zeit.

| 1880 | α | δ | $\log \Delta$ | $\log r$ | Lichtstärke |
|-----------|--|-------------------------|---------------|----------|-------------|
| Novbr. 20 | 1 ^h 4 ^m 7 ^s | + 54 ^o 25' 8 | 9.2561 | 0.0491 | 1.01 |
| „ 24 | 2 2 21 | 55 2.0 | 9.2690 | 0.0543 | 0.99 |
| „ 28 | 2 56 38 | 53 46.4 | 9.2916 | 0.0607 | 0.87 |
| Decbr. 2 | 3 41 29 | 51 13.0 | 9.3222 | 0.0683 | 0.73 |
| „ 6 | 4 16 5 | + 48 1.1 | 9.3587 | 0.0768 | 0.37. |

Der Lichtstärke liegt als Einheit jene vom 7. November zu Grunde.

Swift's Comet (*e*) 1880, and its identity with Comet III. 1869.

I desire to communicate elements of the Comet discovered by Prof. Swift on Oct. 11th, which will in all probability prove to be periodic, the resemblance of the elements to those of Comet III. 1869 appearing remarkable.

Below I place my elements of Swift's Comet by the side of Dr. Bruhns' elements (A. N. 1788) of Comet III. 1869.

Comet III. 1869.

 $T = 1869$ Nov. 20.85426 Berlin mean time. $\pi = 41^{\circ}17'12''5$ $\Omega = 292\ 40\ 28.8$ $i = 6\ 55\ 0.0$ $\log q = 0.042416.$

Direct.

The argument is striking, if it is considered that one of the positions used by me (Oct. 21) was given only to the nearest minute of arc, and the other two (Oct. 25 and Oct. 28) are not yet definitively reduced.

Boston, U. S. A., Nov. 1, 1880.

Comet Swift (e) 1880. $T = 1880$ Nov. 7.714 Washington mean time. $\pi = 41^{\circ}41'0$ $\Omega = 295\ 25.4$ $i = 7\ 21.7$ $\log q = 0.04262.$

Direct.

With regard to Dr. Bruhns' orbit of Comet III. 1869, it is worthy of note that he remarked that a comparison with the observations at Leipsic indicated a variation from a parabolic orbit.

S. C. Chandler jr.

Beobachtungen der Cometen d und e 1880.

Comet Hartwig.

| | Od. m. Zt. | $\alpha_* - \alpha$ | $\delta_* - \delta$ | α | δ | |
|---------|--|------------------------------------|---------------------|---|----------------------------|-----|
| Oct. 25 | 7 ^h 15 ^m 22 ^s | -0 ^m 15 ^s 78 | - 9' 41''0 | 18 ^h 1 ^m 21 ^s 04 | +12 ^m 30' 26''7 | a |
| 28 | 8 31 6 | -2 15.26 | - 1 16.5 | 18 9 38.25 | +11 26 47.3 | b |
| 31 | 7 47 43 | +0 44.67 | - 6 44.3 | | | c |
| 31 | 7 59 53 | +0 18.41 | 11 26.0 | | | d |
| Nov. 1 | 7 55 43 | -0 5.13 | - 10 26.0 | 18 19 9.03 | +10 17 19.3 | e |

Angenommene Oerter der Vergleichsterne für 1880.0.

| | | | |
|-----|---------------------------------|------------------------------|-----------------------------|
| a | Weisse 17 ^h Nr. 1266 | $\alpha : 18^h\ 0\ 52^s\ 11$ | $\delta : 12^m\ 20'\ 32''0$ |
| b | LL. Nr. 33494 | 18 7 20.46 | 11 25 18.2 |
| c | BD. + 10 ^o Nr. 3492 | 18 17 34.4 | 10 40.0 |
| d | BD. + 10 ^o Nr. 3490 | 18 17 9.4 | 10 45.2 |
| e | LL. Nr. 33985 | 18 19 0.71 | 10 6 40.9 |

Comet Swift.

| | Od. M. Zt. | $\alpha_* - \alpha$ | $\delta_* - \delta$ | α | δ | |
|---------|--|------------------------------------|---------------------|---|----------------------------|-----|
| Oct. 25 | 9 ^h 34 ^m 46 ^s | -0 ^m 59 ^s 73 | + 0' 8''4 | | | a |
| 31 | 8 44 33 | -0 22.61 | - 0 32.2 | 22 ^h 7 ^m 33 ^s 64 | +34 ^m 12' 35''0 | b |
| Nov. 1 | 10 6 31 | +0 48.20 | - 1 39.3 | 22 9 19.66 | +35 5 0.7 | c |

Angenommene Oerter der Vergleichsterne für 1880.0

| | | | |
|-----|------------------------------------|--------------------------------|------------------------|
| a | BD. + 28 ^o Nr. 4227 | $\alpha : 21^h\ 48^m\ 52^s\ 4$ | +28 ^m 18' 6 |
| b | Weisse 22 ^h Nr. 146 | 22 7 7.50 | +34 11 27''4 |
| c | Weisse 22 ^h Nr. 266.267 | 22 10 4.29 | +35 2 45.2 |

Nach dem Cometen Schäberle habe ich 2 Abende vergeblich gesucht.

Odessa, 11. Nov. 1880.

E. Block.