Observations of Venus near Inferior Conjunction

made with the 12 inch equatorial and its ($3\frac{1}{4}$ inch) finder.

Bad weather prevented any observations here of the planet Venus at inferior conjunction; the 2nd, 3rd and 4th of December were cloudy and stormy. It was observed, however, on Nov. 29th and 30th and Dec. 1st and 5th.

I enclose two drawings of the planet on two of these dates (Dec. 1st and 5th) which will show, better than words, what was seen here.

DEC. 1.

VENUS
1890

DEC. 5.

On Nov. 29 the south horn seemed to extend farther than the north and was more slender; this was also the case Dec. 1st.

Dec. 1st the crescent extends through some 270° , and on Dec. 5 the circle was nearly complete, it could be seen easily through about 340° , and several times I thought it was complete, but our usual poor seeing in the daytime made it impossible to be certain of more than I have drawn. I feel sure the complete circle would have been visible if the planet could have been seen on Dec. 4th.

No irregularities of the crescent nor markings on the dark body of Venus could be seen, nor was there any difference of shade to distinguish the dark portion of the planet from the sky.

The following position angles were obtained by placing the wires parallel to the cusps of the crescent.

Nov. 28th position angle of cusps 200.8 (4 obs.)

Dec. 1st » » » » 198.9 (3 »)

All the observations were made about noon.

Mt. Hamilton 1890 Dec. 12. *E. E. Barnard.*

Elemente des Planeten (301).

Die nachstehenden Elemente sind aus 3 Beobachtungen berechnet, welche einen Zeitraum von 27 Tagen umfassen. Der Planet wurde am 16. November 1890 von Herrn Dr. J. Palisa entdeckt und das letzte Mal am 13. December beobachtet.

Epoche: 1890 Nov. 16.5 M. Z. Berlin.

$$\left. \begin{array}{l} M = 146^\circ 6' 25.8 \\ \omega = 118 16 40.6 \\ \Omega = 142 20 16.0 \\ i = 4 52 49.9 \end{array} \right\} \begin{array}{l} \text{M. Aequ. 1890.0} \end{array} \quad \begin{array}{l} \varphi = 3^\circ 46' 24.1 \\ \mu = 788.373 \\ \log a = 0.435498 \end{array}$$

Heliocentrische Aequatorealcoordinaten für 1891.0.

$$\begin{array}{l} x = [9.999413] r. \sin(v + 350^\circ 43' 50.8) \\ y = [9.974190] r. \sin(v + 261 47 24.2) \\ z = [9.529826] r. \sin(v + 252 25 16.3) \end{array}$$

Aus 2 Beobachtungen Wien Dec. 7 und 8 habe ich einen Normalort gebildet; derselbe wird durch obige Elemente im Sinne (B—R) wie folgt dargestellt:

$$d\alpha \cos \delta = -2.2, \quad d\delta = +1.7$$

während der grösste Fehler einer Beobachtung 2.9 beträgt. Eine handschriftliche Ephemeride wurde Herrn Dr. Palisa von mir bereits mitgeteilt.

Währing 1891 Jan. 25.

J. Hackenberg.

Verkaufs-Anzeige. 5 zölliger Reinfelder'scher Refractor ohne Stativ zu verkaufen.

Frau Prof. *Teichmüller*, Jena.

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