

1428 Jovian Belts and Zones

Walter H. Haas
Las Cruces, N.M.
12.5-inch refl.

May 5, 1963

12:03, U.T. Relative Conspicuousnesses Jovian Belts
202X, S2-3, TR5. $CM_1 = 210^\circ$, $CM_2 = 112^\circ$. Rank is: NEB, SEBN, STB, NNTB, SEB_s, NTB. SEBN very far north, as in 1961.

12:17, U.T. Intensities of Jovian Features. 202X, S2-3, TR5. NEB 2.7. SEBN 3.2. STB 2.8. NNTB 2.8. EZ 4.8. NT+Z 7.0. ST+Z = SEB 2 6.3. ST+Z 8.0. NPR = SPR 4.0. $CM_1 = 219^\circ$, $CM_2 = 121^\circ$.

May 11, 1963

12.5-inch refl.

11:45, U.T. Relative Conspicuousnesses Jovian Belts
202X, S2-3, TR5. $CM_1 = 66^\circ$, $CM_2 = 282^\circ$. Rank is: NEB, STB, SEBN, SEB_s, NNTB, SSTB.

11:55, U.T. Intensities of Jovian Features. 202X, S3, TR5. $CM_1 = 72^\circ$, $CM_2 = 288^\circ$. NEB 2.6. STB 2.8. SEBN 3.0. fol. CM, 3.5. prec. CM. NNTB 3.1. EZ 5.3. SEB 2-ST+Z 6.5. NT+Z 7.8. ST+Z 7.2. NPR = SPR 3.8. The section of the SEBN beginning at mark 11 is slightly closer to the STB than to the NEB - so far south that one may wonder whether it is the SEB_s!

12:00, U.T. Jupiter. 202X, S3, TR5. $CM_1 = 75^\circ$, $CM_2 = 291^\circ$. Mark 12⁺¹¹ on the fol. side of a broad, bright band extending in a S-prec.-Nfol. direction from the S edge of the NEB to the ST+Z.

Further note on SEBN. This belt bends northward in increasing longitude fol. mark 11, which is thus perhaps 2/3 of the way from the S edge of the NEB to the N edge of the STB.

May 12, 1963

12.5-inch refl.

11:45, U.T. Relative Conspicuousnesses Jovian Belts
202X, S2-3, TR5. $CM_1 = 223^\circ$, $CM_2 = 72^\circ$. Rank is: NEB, STB, SEBN, NNTB, SEB_s.

17/28

Jovian Belts + Zones

Walter H. Haas
Las Cruces,
N. Mex.
12.5-inch
refl.

May 12, 1963 (cont.)

12:00, U.T. Intensities of Jovian Features. 202X, S2, TR S2
NEB 2.5. STB 3.1. SEBN 3.3. NNTB 3.2. E2 5.2. SEB 2-
ST+2 5.8. NT+2-NTe2 7.5. STe2 7.0. NNTe2 5.2. SPR =
NPR 3.9. $CM_1 = 233^\circ$. $CM_2 = 81^\circ$.

May 26, 1963

12.5-inch refl.

11:20, U.T. Relative Conspicuousnesses Jovian Belts.
202X, S2-3, TR S. $CM_1 = 257^\circ$. $CM_2 = 359^\circ$. Rank is: NEB, STB,
fol. half SEBN, NNTB, prec. half SEBN, SSSTB

11:45, U.T. Intensities of Jovian Features. 202X, S3, TR
S-3. $CM_1 = 272^\circ$. $CM_2 = 14^\circ$. NEB 2.7. STB 2.0. SEBN 2.3 in fol.
3/5. SEBN 2.8(?) in prec. 2/5. NNTB 3.1. STe2-SSTe2 8.0.
ST+2=SEB 2=RS+ 7.0. E2 4.9. NT+2-NTe2 7.0. SPR=NPR
4.0. As usual, many of the intensities given are
averages.

May 30, 1963

6-inch refl.

10:50, U.T. Relative Conspicuousnesses Jovian Belts.
141X, S3-4, TR S. $CM_1 = 150^\circ$. $CM_2 = 222^\circ$. Rank is: NEB, STB,
fol. half SEBN, NNTB, prec. half SEBN, SSSTB. SEBN about
midway between Sedge NEB and Nedge STB.

11:05, U.T. Intensities of Jovian Features. 141X, S3-4, TR S.
 $CM_1 = 159^\circ$. $CM_2 = 231^\circ$. NEB 2.7. STB 2.4. SEBN 3.0 in fol.
half, 3.4 in prec. half. NNTB 3.1. SSSTB 3.2. STe2 7.7.
NT+2-NTe2 7.2. ST+2-SEB 2 6.2. E2 5.3. NNTe2 4.9.
NPR 3.8. SPR 4.0.

June 2, 1963

6-inch refl.

10:45, U.T. Relative Conspicuousnesses Jovian Belts. 141X,
S3, TR S. $CM_1 = 260^\circ$. $CM_2 = 309^\circ$. Rank is: NEB, STB, fol. half
SEBN, NNTB, prec. half SEBN, SSSTB.

11:10, U.T. Intensities of Jovian Features. 141X, S2-4, TR S2
NEB 2.7. STB 2.4. SEBN 2.9 in fol. 3/5. NNTB 2.9.
STe2-SSTe2 8.0. NT+2-NTe2 7.2. ST+2-SEB 2 6.2.

18/28

Jovian Belts + Zones

W. Walter
H. Haas
Las Cruces, N.M.

June 2, 1963 (cont.)

EZ 5.1. NPR 3.8. SPR 4.1. RSH 7.3 (?). $CM_1 = 275^\circ$. $CM_2 = 324^\circ$.
6-inch refl.

June 5, 1963

6-inch refl.

10:50, U.T. Relative Conspicuousnesses Jovian Belts.
188X, S3-4, TR 5 1/2. $CM_1 = 16^\circ$. $CM_2 = 42^\circ$. Rank is: NEB, STB,
SEBN, NNTB, SSSTB (about 45% of way from Sedge
STB to Sling), SEBs.10:57, U.T. Jupiter. 188X, S3-4, TR 6. $CM_1 = 21^\circ$. $CM_2 = 47^\circ$. In
these longitudes the NEB is less conspicuous than in
May. The NNTB is apparently a single belt.11:25, U.T. Intensities of Jovian Features. 141X, 188X. S2-4, TR 6.
 $CM_1 = 38^\circ$. $CM_2 = 64^\circ$. NEB 2.9 fol. CM_1 , 3.7 prec. CM_2 . STB 2.6.
SEBN = NNTB 2.7. EZ 5.2. ST+Z-SEB 2.6. NT+Z-ME 2
7.2. ST 2 7.7. NPR = SPR 3.9. NNTe 2 5.2. Ncap 5.1.
SSSTB 3.1 (?). RSH (?) 6.9. RS (?) 3.0 (avg.).

July 20, 1963

12.5-inch refl.

9:15, U.T. Relative Conspicuousnesses Jovian Belts. 303X,
S3-4, TR 6. $CM_1 = 222^\circ$. $CM_2 = 265^\circ$. Rank is: STB, NEB, SEBN
(almost equal NEB), NNTB, SSSTB, SEBs (near Nedge STB), EB
(near middle EZ).9:40, U.T. Intensities of Jovian Features. 303X, S3-4, TR 6.
 $CM_1 = 237^\circ$. $CM_2 = 280^\circ$. STB 2.8 in prec. CM_1 , next 2.0. NEB
2.6. SSSTB 2.8. NNTB 2.7 (avg.). SEBN 2.5 in prec. CM_2 , next 3.0.
EZ 5.0. SEB 2-ST 2.6. NT+Z-NTe 2 6.7. STe 2 8.0. SSSTe 2
4.8. SPR = NPR 3.9. NNTe 2 5.0. EB 3.2 near CM_1 .10:30, U.T. Colors on Jupiter. 202X, S4, TR 6 1/2. $CM_1 = 268^\circ$. $CM_2 =$
 310° . No filter. STB red-brown. NEB reddish brown.
SEBN and NNTB brownish. STe 2 and NT+Z-NTe 2 white.
SSSTB gray. SPR and NPR gray. EZ and ST+Z-SEB 2
whitish.11:05, U.T. Relative Conspicuousnesses Jovian Belts. 202X, S3-4,
TR 6 1/2. $CM_1 = 289^\circ$. $CM_2 = 332^\circ$. Rank is: STB, NEB, SEBN, NNTB,
EB (narrow but rather dark), SSSTB.

19/28

Jovian Belts & Zones

July 21, 1963

 Walter H.
 Haas
 Las Cruces,
 N. Mex.
 12.5-inch refl.

8:45, U.T. Relative Conspicuousnesses Jovian Belts. 202X, S3, TR5 $\frac{1}{2}$. $CM_1 = 2^\circ$. $CM_2 = 37^\circ$. Rank is: NEB, STB, fol. half SEB_N, prec. half SEB_N, NNTB, SSTB (or perhaps SSSTB, $\frac{1}{3}$ way from S edge STB to S limb), EB, SEB_S (near N edge STB). "SEB_S" perhaps really part of STB.

9:15, U.T. Intensities of Jovian Features. 202X, S3-4, TR6. $CM_1 = 20^\circ$. $CM_2 = 56^\circ$. NEB 2.7. STB 2.9. SEB_N 2.2 in fol. $\frac{3}{4}$, rest 3.0. NNTB 3.0. SSTB 3.1. EB 3.2. EZ 4.9. ST+Z-SEB Z 6.7. NT+Z-NTe Z 6.5. STe Z 7.7. SPR 4.0. NFR 4.2. no filters.

9:25, U.T. Colors on Jupiter. 202X, S3-4, TR6. $CM_1 = 26^\circ$. $CM_2 = 62^\circ$. NEB and SEB_N reddish brown, especially in darker sections. STB, NNTB, and EB brown. SSTB (SSSTB?) brownish. EZ, NT+Z-NTe Z, ST+Z-SEB Z, and STe Z white. SPR and NFR light gray. Note. RS on this date merely reddish brown. Whether because of ~~conditions~~ different conditions or not, the strikingly red color seen yesterday is not confirmed.

September 29, 1963 6-inch refl.

6:50, U.T. Relative Conspicuousnesses Jovian Belts. 188X, S2-4, TR6. $CM_1 = 191^\circ$. $CM_2 = 53^\circ$. Rank is: SEB_N, NEB, STB, NNTB.

7:40, U.T. Intensities of Jovian Features. 141X, S3, TR6. $CM_1 = 222^\circ$. $CM_2 = 83^\circ$. NEB 2.3 in central $\frac{1}{2}$, fainter near limbs. SEB_N 2.0 in fol. $\frac{3}{4}$, rest 3.1. STB 2.5. SSTB (or SSSTB?) 3.0. NNTB 2.8. NT+Z-NTe Z 6.6. ST+Z-SEB Z 6.0. EZ 5.6. STe Z 7.5. SPR = NFR 4.3.

October 6, 1963 6-inch refl.

7:48, U.T. Relative Conspicuousnesses Jovian Belts. 141X, S3, TR5 $\frac{1}{2}$. $CM_1 = 152^\circ$. $CM_2 = 61^\circ$. Rank is: NEB, SEB_N, STB, NNTB, SSTB (or SSSTB?), EB.

20/28

Jovian Belts and Zones ^{Walter} H. Haas

Sas Cruces,
N. Mex.
6-inch refl.

October 6, 1963 (cont.)

8:15, U.T. Intensities of Jovian Features. 14X, S 3-4, TR 5½. $CM_1 = 269^\circ$. $CM_2 = 77^\circ$. NEB 2.5. SEB_N = NNTB 2.8. STB = 3.0 prec. CM, 2.3 fol. CM. SSTB (or SSSTB?) 3.8 (?). NPR = SPR 4.3. NT+Z - NT_eZ 6.5. EZ 5.7. SEB Z - ST+Z 6.2. ST_eZ 6.0.

October 13, 1963

6-inch refl.

6:35, U.T. Relative Conspicuousnesses Jovian Belts. 188X, S 4-5, TR 5. $CM_1 = 234^\circ$. $CM_2 = 350^\circ$. Rank is: NEB, SEB_N, STB, NNTB, SSSTB (SSSTB?), NT+B (NEB_N?), SEB_s.

8:25 Intensities of Jovian Features. 188X, S 3-4, TR 5. $CM_1 = 301^\circ$. $CM_2 = 56^\circ$. NEB 2.8 in prec. half, 2.3 in fol. half. SEB_N 2.6 (avg.). STB 2.8 in prec. 1/3, rest 3.0. NNTB 3.1. SSSTB 3.5 (?). NT+Z - NT_eZ 7.0. SEB Z - ST+Z 6.8. EZ 5.1. ST_eZ 5.5 (?). NPR 4.0. SPR 4.2.

October 28, 1963

6-inch refl.

5:20, U.T. Relative Conspicuousnesses Jovian Belts. 188X, S 3-5, TR 5. $CM_1 = 38^\circ$. $CM_2 = 40^\circ$. Rank is: NEB, STB, SEB_N, NNTB, SSSTB.

5:40, U.T. Intensities of Jovian Features. 188X, S 2-5 TR 5. $CM_1 = 51^\circ$. $CM_2 = 52^\circ$. NEB 2.5. STB 2.3. SEB_N 2.9. NNTB = SSSTB 3.2. EZ 5.4. NT+Z - NT_eZ = SEB Z - ST+Z 6.5. NPR 4.0. SPR 4.2. ST_eZ 6.8 (?). RS 2.5.

November 15, 1963

12.5-inch refl.

2:15, U.T. Intensities of Jovian Features. 202X, S 2-4, TR 5½. $CM_1 = 149^\circ$. $CM_2 = 114^\circ$. NEB 3.1. SEB_N 2.7. STB 2.9. NNTB 3.2. SSSTB 3.3. SEB_s 3.6 (?). EZ 5.1. NT+Z - NT_eZ = ST+Z - SEB Z 6.0. ST_eZ 7.0. NPR = SPR 4.1.

3:05, U.T. Relative Conspicuousnesses Jovian Belts. 303X, S 3-4, TR 5½. $CM_1 = 279^\circ$. $CM_2 = 144^\circ$. Rank is: NEB, STB, SEB_N, NNTB, SSSTB, SEB_s, EB.

4:20, U.T. Intensities of Jovian Features. 202X, S 2-3, TR 6. $CM_1 = 325^\circ$. $CM_2 = 189^\circ$. NEB 2.5 prec. CM, 3.3 fol. CM.

2/28 Jovian Belts and Zones Walter H. Haas
November 15, 1963 (cont.) Las Cruces, N. Mex.
12.5-inch refl.

STB 2.8. SEB_N 3.0. NNTB 3.2 (avg.). SSTB 3.4. EZ 5.9.
NT+Z-NTeZ 6.8. ST+Z-SEB 26.3. NPR 4.0. SPR 4.1.
STeZ 6.7(?).

November 18, 1963 12.5-inch refl.

4:10, U.T. Relative Conspicuousnesses Jovian Belts. 202X,
S3-4, TR 3-4. CM₁ = 72°. CM₂ = 274°. Rank is: NEB, SEB_N = STB,
NNTB, SSTB, NT+B, SEB_S

4:55, U.T. Intensities of Jovian Features. 202X, S3-5, TR 4 1/2.
CM₁ = 100°. CM₂ = 301°. NEB = NT+B = NNTB = EB (Ncomp. SEB_S?)
prec. CM 3.0. SEB_N (Scomp. SEB_S?) 3.2. STB 2.7. SSTB 3.4.
SEB_S 3.7. EZ 5.2 prec. CM, 5.8 fol. CM. SEB 2-ST+Z 5.7.
NT+Z-NTeZ 6.3. STeZ 6.8. NPR = SPR 4.0.

November 25, 1963 12.5-inch refl.

0:40, U.T. Relative Conspicuousnesses Jovian Belts.
303X, S3-4, TR 5 1/2. CM₁ = 330°. CM₂ = 119°. Rank is:
NEB = SEB_N, STB, EB, NNTB, SSTB, NT+B (? very close
to NEB), SEB_S

3:25, U.T. Relative Conspicuousnesses Jovian Belts. 303X,
S3-4, TR 3-5 between clouds. Rank is: STB, NEB, SEB_N, EB,
NNTB, SSTB, NT+B (farther from NEB than near 0:40), EB_N (?
about midway between NEB and EB), SEB_S, NTB. The NT+B,
NEB, EB_N, EB, and SEB_N are roughly equally spaced.
CM₁ = 70°. CM₂ = 18°.

November 28, 1963 12.5-inch refl.

3:48, U.T. Intensities of Jovian Features. 303X, S3-4, TR 6.
CM₁ = 198°. CM₂ = 323°. NEB 2.8. STB 2.5. EB 3.0. SEB_N
3.2. NT+B 3.4. SEB_S 3.7. SSTB 3.1. NTB 3.8 prec. CM, 3.7
fol. CM. NTeZ 6.0. NT+Z 6.5. EZ 4.9 (avg.). SEB 2.5.4. ST+Z
5.7. STeZ 6.0. NPR 3.8. SPR 4.1.

4:15, U.T. Colours of Jupiter. 303X, S3-5, TR 6. CM₁ = 214°. CM₂ =
339°. No filter. NNTB, NT+B, NEB, SEB_N, EB, and STB

22/28 Jovian Belts + Zones W. Walter
H. Haas
November 28, 1963 (cont.) Gas Sources,
N. Mex.

Brown. SSTB and NTB brownish gray. 12.5-inch refl.
EZ, NTFZ, and NTeZ white. STeZ, SEBZ,
of violet. SPR and NPR gray. STeZ white with tinge

5:07, U.T. Red Spot. 303X, S3-4, TR6. $CM_2 = 11^\circ$. Spot 38
with W.F. 25, 2.8 with W.F. 58, and 1.2 with W.F. 47.
Striking darkening in blue light!

6:10, U.T. Relative Conspicuousnesses Jovian Belts.
303X, S4, TR6. $CM_1 = 284^\circ$, $CM_2 = 49^\circ$. Rank is: NEB, SEB_N, STB,
NNTB, SSTB, EB, *prec.* CM, NTFB, SEB_S.

7:15, U.T. Intensities of Jovian Features. 202X, S3-4, TR
 $5\frac{1}{2}$ CM₁ = 324°. CM₂ = 88°. NEB = SEB_N 2.8. STB 2.9. NNTB 3.2.
SSTB 3.0 (avg.). SEB_S 3.7. STeZ - SEBZ 6.2. STeZ 6.7.
EZ 5.0 (avg.). NTFZ - NTeZ 6.7. NPR 3.8. SPR 4.1.

November 29, 1963 6-inch refl.

5:20, U.T. Relative Conspicuousnesses Jovian Belts. 188X,
S3-4, TR 5 $\frac{1}{2}$. $CM_1 = 52^\circ$, $CM_2 = 169^\circ$. Rank is: NEB, SEB_N, STB, NNTB,
SSTB, EB, SEB_S.

5:45, U.T. Intensities of Jovian Features. 188X, S3-4, TR 5 $\frac{1}{2}$ CM₁ =
67°. CM₂ = 184°. NEB 2.2 in *prec.* 3/5, rest 3.2. STB 2.7. SEB_N
3.1. NNTB 3.0 (?). SSTB 3.2. NTFZ - NTeZ 7.0. EZ 5.3. SEBZ -
STeZ 6.0. STeZ 6.7. SPR = NPR 4.0. SEB_S 3.7 (?).

December 2, 1963 6-inch refl.

5:05, U.T. Intensities of Jovian Features. 188X, S4, TR 5 $\frac{1}{2}$.
CM₁ = 156°. CM₂ = 250°. NEB 3.1. SEB_N 3.0. STB 2.8. NNTB 2.9.
SSTB 3.0. SEB_S 3.8 (?). STeZ 6.8. SEBZ - STeZ 6.0. EZ 5.3.
NPR 3.8. SPR 4.1. NTFZ - NTeZ 6.7.

5:28, U.T. Relative Conspicuousnesses Jovian Belts. 188X,
S3-4, TR 5 $\frac{1}{2}$ CM₁ = 170°. CM₂ = 264°. Rank is: NEB = SEB_N, STB,
NNTB, SSTB, SEB_S.

~~5:28, U.T. Jupiter III is visible as an inconspicuous
spot of intensity 3.3 in the S part of the STeZ. 188X,
S4, TR 5 $\frac{1}{2}$.~~

23/28

Jovian Belts and Zones

Walter H. Haas

Jas. Cruces,

N. Mex.

12.5-inch refl.

December 15, 1963

6:10, U.T. Intensities of Jovian Features. 202X, S3-4, TR 4½.
 CM₁ = 87°. CM₂ = 82°. SEB_N = STB 2.8. NEB 3.0. NNTB 3.1. SSTB 3.4.
 SEB_S 3.7. EB 3.5. EZ 5.2. SEB 2-ST 2 = NT 2 - NT 2 6.5. ST 2
 5.7. NPR 4.1. SPR 4.3. As usual, several of these
 intensities are averaged values.

December 27, 1963

12.5-inch refl.

5:35, U.T. Relative Conspicuousness Jovian Belts. 202X,
 S2-3, TR 4½. CM₁ = 159°. CM₂ = 62°. Rank is: SEB_N, NEB, STB,
 EB (near SEB_N), NNTB, SSTB (almost equal NNTB), SEB_S.

January 1, 1964

12.5-inch refl.

0:35, U.T. Relative Conspicuousnesses Jovian Belts.
 202X, S3, TR 6. CM₁ = 45°. CM₂ = 272°. Rank is: SEB_N, NEB,
 STB, NNTB, SSTB (almost equal NNTB), SEB_S, prec. ¼
 NT-B, NTB (not far from NTB).

January 5, 1964

12.5-inch refl.

0:25, U.T. Relative Conspicuousnesses Jovian Belts.
 202X, S3-4, TR 6. CM₁ = 310°. CM₂ = 146°. Rank is: NEB, SEB_N,
 STB, EB (close to SEB_N), NNTB, SSTB, SEB_S, NT+B fl. CM
 (close to NEB).

3:30, U.T. Intensities of Jovian Features. 202X, S3-4, TR 5½.
 CM₁ = 62°. CM₂ = 258°. NEB 3.1. SEB_N 3.0. STB 2.8. NNTB 3.0.
 SSTB 3.4. SEB_S 3.6. ST 2 7.5. SEB 2-ST 2 5.6. NT 2 - NT 2
 6.0. NPR = SPR 4.1. EB (near SEB_N) 3.2 (?). EZ 5.1. As usual,
 several of these intensities are averaged values.

January 12, 1964

12.5-inch refl.

2:11-2:23, U.T. Intensities of Jovian Features. 202X, S3-
 4, TR 6. CM₁ = 42°. CM₂ = 184°. NEB 2.7. STB 2.9. SEB_N = NNTB
 3.2. SSTB 3.4. SEB_S 3.7. NPR 4.0. SPR 4.2. ST 2 6.8. SEB 2 5.5.
 ST 2 5.7. EZ 5.2. NT 2 - NT 2 7.0. As usual, a number of
 these intensities are values averaged across the disc.

24/28

RS-RSH Region

Walter
H. Bass
Las Cruces,
N. Mex.
12.5-inch refl.

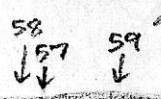
May 26, 1963

11:50, U.T. (and other times). $202X, S3, TR5, CM_2 = 17^\circ$. Nothing can be seen of an RS. What is presumed to be the RSH (marks 32-33) is only slightly brighter than the neighboring ST+Z. The STB arches southward slightly where it borders this RSH.

June 2, 1963

6-inch refl.

12:00, U.T. (and other times). $141X, S2-3, TR6, CM_2 = 354^\circ$. A presumed RS (mark 56) is merged inseparably with the STB and is about intensity 3.4; it is also narrow N-S. This RS is followed by a (presumed) long, narrow RSH, which again bows the STB slightly southward where they are adjacent.



June 5, 1963

6-inch refl.



10:38-10:46, U.T. A rough sketch of an area which is rather hard to interpret. Spot (?) darker at its borders. Hollow (?) dimmer than on May 26

and June 7.

July 20, 1963

12.5-inch refl.

11:40, U.T. $202X, S4, TR6, CM_2 = 353^\circ$. The spot is extremely red, quite the reddest I have ever seen it. Its intensity is 2.7. Spot still confined to Spout ST+Z and still merges with STB. Surrounding RSH unnotable, diffusely bounded and scarcely brighter than rest of ST+Z. The color of the spot is absolutely fiery! The spot is greatly darkened with U.F. 47, considerably darkened with U.F. 58, and invisible with U.F. 75. Very bright oval DE is in conjunction with the RS and is a large indenting bay at the S edge of the STB.

24/28

Jovian Satellites

Walter H. Haas

May 30, 1963

Las Cruces, N. Mex.
6-inch refl.

Transit Ingress Jupiter I. 141X, S3-4, TR6. Jupiter pale, sunrise at 12:00. Observed mid-ingress at 12:08.3. a.e.n.a. gives 12:12, U.T.

October 13, 1963

6-inch refl.

CM Transit Shadow of III. 188X, S4-5, TR5. Observed on CM at 6:18. Predicted time 6:13

Transit Egress of Jupiter III. 188X, S2-5, usually 3-4, TR5. Observed times were: internal contact at 6:42.4 ± 1.2 , U.T., mid-egress at 6:49.8 ± 1.0 , external contact at 6:58.4 ± 1.5 . a.e.n.a. gives 6:53 for mid-egress. J. III lies on or near SSTB, most conspicuous belt S of STB.

Transit Egress of Shadow of III. 141X, S2-4, TR5. Internal contact observed at 7:28.2 ± 1.2 , mid-egress at 7:32.2 ± 1.0 , U.T. a.e. gives 7:34 for mid-egress.

November 15, 1963

12.5-inch refl.

Transit Ingress Jupiter II. 202X, S2-3, TR5. Mid-ingress observed at 1:51.7 ± 0.4 , U.T. Internal contact observed at 1:54.2 ± 1.1 . a.e. gives 1:52 for mid-ingress.

Transit Egress Jupiter II. 202X, S1-3, TR6. Mid-egress observed at 4:17.5 ± 0.5 , U.T. External contact observed at 4:19.6 ± 0.8 . a.e. gives 4:17 for mid-egress.

CM Transit of Shadow of II. 202X, S2-3, TR6. Observed on CM at 4:42, U.T. Predicted time 4:43. Shadow on notably dark STB and harder to see for this reason.

November 18, 1963

12.5-inch refl.

CM Transit of Shadow of I. 202X, S3-4, TR4. Observed on CM at 4:14, U.T. Predicted time 4:10

Transit Egress Jupiter I. 202X, S3-4, TR4. Internal contact observed at 4:22.8 ± 0.6 . Mid-egress observed

27/28 Jovian Satellites Walter
H. Haas
Las Cruces, N. Mex.
November 18, 1963 (cont.) 12.5-inch refl.

at $4:25.7 \pm 0.3$. External contact observed at $4:28.3 \pm 1.1$ a.e. gives $4:28$ for mid-egress.

November 25, 1963 12.5-inch refl.

Transit Ingress Jupiter III. 303X, S2-4, TR 5 $\frac{1}{2}$. External contact observed at $0:41.0 \pm 0.8$, ^{U.T.} mid-ingress at $0:47.9 \pm 0.7$. Internal contact at $0:54.3 \pm 1.0$ a.e. gives $0:49$, U.T. for mid-ingress.

Transit Egress Jupiter III. 303X, S2-4, TR 2 to +5 between clouds. Internal contact observed at $3:18.9 \pm 1.1$, U.T. mid-egress at $3:23.3 \pm 0.8$. External contact at $3:30.8 \pm 1.2$ a.e. gives $3:24$ for mid-egress.

Transit Ingress Jupiter I. 303X, S3-5, TR 2-5. External contact observed at $4:00.4 \pm 0.6$, U.T. mid-ingress observed at $4:03.2 \pm 0.4$. Internal contact at $4:05.3 \pm 0.9$ a.e. gives $4:05$ for mid-ingress.

Transit Ingress Shadow of III. 303X, S2-4, TR 5 $\frac{1}{2}$. mid-ingress observed at $5:09.6 \pm 1.2$, U.T. Internal contact observed at $5:13.2 \pm 1.2$ a.e. gives $5:10$ for mid-ingress.

November 29, 1963 6-inch refl.

Transit Ingress Jupiter II. 141X, S2-4 (seldom 2), TR 5. External contact at $6:30.4 \pm 0.7$, U.T. mid-ingress at $6:33.1 \pm 0.9$. Internal contact at $6:38.2 \pm 1.3$ a.e. gives $6:36$, U.T. for mid-ingress.

638 December 2, 1963 6-inch refl.

Transit Ingress Jupiter III. 188X, S4, TR 5 $\frac{1}{2}$. External contact observed at $4:20.0 \pm 0.9$, U.T. mid-ingress observed at $4:24.7 \pm 0.5$. Internal contact observed at $4:31.1 \pm 2.2$ a.e. gives $4:26$ for mid-ingress.

CM Transit Jupiter III. 188X, S4, TR 5 $\frac{1}{2}$. Observed on CM at $5:44$, U.T. Predicted time $5:44$. Intensity of satellite 2.8 (a little later 2.6 in seeing briefly 5).

28/28 Jovian Satellites

Walter H. Haas

December 2, 1963 (cont.)

Las Cruces, N. Mex.
6-inch refl.

Transit Ingress Jupiter I. 188X, S4-5, TR 5 $\frac{1}{2}$. External contact observed at 5:50.0 \pm 0.8, U.T. Mid-ingress at 5:52.8 \pm 0.7. Internal contact at 5:55.8 \pm 1.5.

D.E. gives 5:55, U.T. for mid-ingress.

5:28 Jupiter III. 188X, S4, TR 5 $\frac{1}{2}$. The satellite is visible as an inconspicuous spot of intensity 3.3 in the S part of the STeZ.