great circle distance between their centers was $7^{\circ} 30'$.

This series of photographs presents an interesting study of the behavior of seeing.

Las Cruces, N. Mex.

Underhill, Anne B. An O5 model atmosphere.

A model atmosphere in radiative and mechanical equilibrium with $T_0 = 35,000^{\circ}$ and $\log g = 4.200$ has been calculated. From the strength of $H\gamma$ and from the electron density the model is found to correspond to spectral type O5 V. The spectral intensity distribution of the emergent flux is computed and it is shown that the integrated flux corresponds to an effective temperature of $44,600^{\circ}$. The emergent flux differs from that of a black body at $44,600^{\circ}$ in the region $\lambda < 1500\text{\AA}$, but the differences are not so large as in the case of an O9.5 V atmosphere. The excess of radiation over that from a black body at the effective temperature of the atmosphere in the wave-length ranges $912 < \lambda < 1500\text{\AA}$ and $228 < \lambda < 500\text{\AA}$ will affect the estimation of the ionization and excitation of interstellar and circumstellar material near O5 stars.

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Wagman, N. E. and Ellen Jameson. A comparison of present and earlier Allegheny parallaxes.

The increase in accuracy of present Allegheny parallaxes as compared with Allegheny parallaxes of 30 years ago is brought out by recent parallax determinations for 26 stars whose earlier parallaxes were among the first measured here. Averages from the new and the old parallax determinations are shown in the table:

	New Series	Old Series
Plates	33	15.6
No. of comp. stars	4.8	3.6
Mag. of comp. stars	12.4	10
Exposure	194 ^s	23 ^s
Sector opening	0.35%	3.2%
Relative parallax	+ $^{\circ}027$	+ $^{\circ}024$
P.E. of parallax	$\pm^{\circ}0049$	$\pm^{\circ}0086$
P.E. of unit weight	$\pm^{\circ}019$	$\pm^{\circ}023$
Area	82 cm ²	114 cm ²

The decrease in the probable error of the parallax in the new series is largely due to the increase in the number of plates but there is also a considerable decrease in the probable error of unit weight. This latter decrease may be attributed to better sets of comparison stars made

possible by increased exposures. The last line of the above table shows the decided decrease in the new series in the "area" enclosed by the comparison stars. Large "areas" are a well-known source of error in parallaxes. The "area" is given by $2([X^2] + [Y^2])/n$ where n is the number of comparison stars and X and Y are the coordinates of the comparison stars referred to the parallax star as center.

The average parallax of the new series is in good agreement with that of the old series and would be even better if absolute parallaxes were considered. The average difference between the parallaxes of the new and old series is $^{\circ}012$. Four of the 26 stars show differences of over $^{\circ}030$ between the two determinations:

Star	new π	old π	BS π	Sp. π
37 Tau	+10	-22	15	18
Grb. 3215	+56	+21	—	54
111 Her	+18	+51	37	32
24 Vul	+0	-31	7	10

The unit of the table is $^{\circ}001$ and the parallaxes are relative. The last two columns are the parallaxes given in the *Catalogue of Bright Stars*, 1940, and the spectroscopic parallaxes from the *General Catalogue of Stellar Parallaxes*, 1935, respectively. Over 100 redeterminations of parallaxes are being made.

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Whipple, Fred L. and Salah El-Din Hamid. On the origin of the Taurid meteors.

The great Taurid (or Taurid-Arietid) photographic meteor streams, as shown previously by Wright and Whipple, persist from October 14 to November 30. The radiants move together along two nearly parallel radiant paths, equidistantly spaced $3\frac{1}{2}^{\circ}$ north and south of Jupiter's orbital plane. The orbital elements of nine doubly-photographed Taurids are largely functions of the longitude of the sun and only slightly dependent, except for Ω and ω , upon the meteors' association with the weaker northern stream or the stronger southern stream. Particularly is this true of the perihelion distance, q . The total observed range in q is large, from 0.24 a.u. to 0.48 a.u., while that in aphelion distance, Q , is from 3.46 a.u. to 4.59 a.u. All inclinations are small, $2^{\circ}5$ to $6^{\circ}3$ while the total range in the longitude of perihelion, π , is only from $150^{\circ}2$ to $160^{\circ}5$. A previously suggested association of the Taurids with Comet Encke is based on the similarity of orbit shapes, direction of the major