The remaining differences give 0.18^m for the mean value of a difference $W-B$; as the I + II stars alone give 0.20 and the fainter I stars give 0.15 it seems that there was no necessity for two different reductions for the outer and the inner parts. The central parts within 40″ show no separate stars on plate I; here the magnitudes rest on plate II only. *)

By inserting the different measured objects into a chart of the central parts their identities were made out as well as possible; so a catalogue was constructed containing all real different objects, for the circle within 36″ radius and the rings between 36″, 54″ and 108″ separately. The average difference between the magnitudes from different sources has been computed: for ring 54″ — 108″ $B-P(1) = +0.27$ (bright stars $+0.45$, faint stars $+0.25$); $B-P(2) = 0.00$; $P(2)-P(1) = +0.14$; $P(2)-P(^1/_2) = +0.11$; $P(1)-P(^1/_2) = 0.00$; for the region within 54″ $B\,\mathrm{II}-P(1) = +0.30$ (bright stars $+0.53$. faint stars $+0.09$); $P(2)-P(1) = +0.24$; $P(2)-P(^1/_2) = +0.30$; $P(1)-P(^1/_2) = +0.04$. These values give the relative systematic differences for the central parts compared with the outer rings used in deriving the reduction formulas. Thus it appears that the strongest exposures (B and $P(2)$) show the central stars relatively fainter (and the brightest stars more so than the fainter ones), and the short exposures ($P(1)$ and $P(^1/_2)$) show them relatively brighter than the normal outer stars — in agreement with what might be expected. As it is not possible to make an estimate of the positive or negative systematic errors themselves it seemed best to use simply the mean of the different plates; systematic errors of some tenths of a magnitude may still affect these results.

*) Great differences, giving suspicion of variability, are found for *P* 410 (15.10 16.75), *P* 1076 (15.14 16.12) *P* 1080 (14.57 15.94). The variability of *P* 281 (*B* 78) and *P* 801 (*B* 509) is not confirmed; the first named, as Dr. KÜSTNER informs me, should be omitted.

Remark on the period of α Ursae minoris, by *A. Pannekoek.*

In *A. N.* **217**. 453 (1922) H. J. GRAMATZKI publishes measures of this star, made with a „mesothorium-photometer, and deduces from them a time of maximum, deviating $+6^h 11^m$ from HERTZSPRUNG's ephemeris. A maximum deduced by BOTTLINGER at Babelsberg by means of the photo-electric cell gives the same deviation; by increasing the period from 3.9681 to 3.96835 the deviation could be made to disappear.

Now in my paper on the period of Polaris (*A. N.* **194**. 359. 1913; *Proc. Amst. Ac.* 1913, 1192) I have deduced elements of this star; it is shown there that a period of 3.96809, nearly coinciding with HERTZSPRUNG's value, represents the maxima from 1879 to 1911. The correction derived by GRAMATZKI would leave a residual $-0^d.70$ in the result of the Potsdam measures of 1879, which is wholly out of the question. We could be inclined to think the period variable. But the chief cause of the discrepancy probably must be sought for in the mode of treatment. GRAMATZKI has deduced his maximum from an irregular light curve, showing a regression in the decrease and represented by $-57 \cos\alpha - 7 \sin 2\alpha - 13 \cos 3\alpha - 8 \sin 4\alpha$, while the other data have been computed from simple sine curves. Now whatever may be thought of the reality of secundary irregularities (appearing in most results, but nowhere in the same form), it is clear that the period and its variations must be founded on identical light curves or on a mean curve. Instead of the often used time of mean brightness in increase or decrease we may as well take a maximum time deduced from a simple sinusoid. Computing such a sine formula from GRAMATZKI's measures I find the phase of maximum 3.01 instead of his result 3.14, making the epoch of maximum 2422954.09 and the deviation from HERTZSPRUNG's ephemeris $+0^d.13$. The comparison of my formula 2418985.93 (± 6) + 3.96809 E (± 4) with the different data now becomes:

Year	E	Maximum	Observer	Deviation
1879	— 2845	2407696.57	Müller	— 0.13
1881	— 2711	8228.45	Harvard	+ .03
1894	— 1497	2413045.81	Pannekoek	+ .12
1910	0	8985.86	Hertzsprung	— .07
1911	0	8985.94	Stebbins	+ .01
1921	+ 1000	2422954.09	Gramatzki	+ .07
1922	+ 1044	3128.80	Bottlinger	(+ .19)

As possibly the result of BOTTLINGER has also been deduced from an individual irregular lightcurve it is put in parentheses. The other data are well represented by the formula and the correction to the period, deduced by GRAMATZKI, is not confirmed by them.