THE VARIABLES IN THE SELECTED AREAS AT 75° AND 60° NORTH DECLINATION. 2. WORKING METHODS AND RESULTS FOR AREAS 5–7*

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(Communicated by the Astronomer Royal for Scotland)

Summary

In continuation of a previous publication, this paper describes the methods used in a search for variables in these Areas, and gives results for Areas 5 to 7. Since results for Areas 2 to 4 have already been published† this completes the search of the Areas centred at declination ±75°. The published results include only such stars as lie within three degrees of the centres of the Areas, become brighter than magnitude 14 at maximum, and show changes of at least 0.5 magnitude on more than one occasion.

From plates taken with a ten-inch triplet eight pairs of each Area are “blinded” and a list of suspected variables drawn up, each with its own comparison stars. The photographic magnitudes of the comparison stars, accurate to about 0.1 magnitude, are obtained from various sources, that preferred being the Bergedorfer Spektral-Durchmusterung, extended in range by a short and long exposure method and in area by examining the field corrections on de-centred plates. If after a preliminary test the suspected variable promises to fulfil the above criteria, it and its comparison stars are compared on all plates by the step method and the results combined to give in the first place more self-consistent comparison star magnitudes and finally the magnitudes of the variable for the date of each plate.

Maps with photographic magnitudes of comparison stars, positions correct to about one second of arc, and from twenty to thirty observations are given for each variable. In Areas 5 to 7 these particulars are given for two known and seven new variables.

* The full text of this paper appears in Publications of the Royal Observatory, Edinburgh, 1, No. 3, 1949.
† M. N., 97, 541, 1937; 98, 65, 1937.