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11 NEW VARIABLES IN GLOBULAR CLUSTER M 5

This paper continues the presentation of results of a major investigation for discovering new variables in central regions of globular clusters. Scrutinizing the number of "cluster variables" discovered so far one anticipates the possibility of finding more new ones (Kadla, Gerashchenko, 1984). Study of the clusters M 3, M 13, M 5 and M 92 resulted in discovery of 51 new variables.

The globular cluster M 5 is one of the richest in variables. The Third Catalogue of Globular Clusters (Sawyer, 1973) lists 103 variable stars in this cluster. Five of them did not prove to be variable, the variability of one further star has been dubious, periods have not been determined for V51, V101, V102 and V103.

About 30 photographic plates taken in B colour have been used for searching new variables in M 5. The plates were taken with the two meter telescopes in Ondrejov Observatory (Czechoslovakia), in Rozhen National Observatory (Bulgaria) and in Shemakha Observatory (U.S.S.R.), and with the one meter telescopes of the Astronomical Institute of the Tadjik S.S.R. and of the Konkoly Observatory, respectively. 11 new variables have been found and the variability of V51 and V102 have been confirmed. The dwarf nova V101 fainter than 17m according to the Sawyer Catalogue was not visible on our plates.

The positions of the new variables have been measured on plates taken with the two meter telescope in Ondrejov (7"/mm). In the 2. and 3. columns of Table I, the coordinates of the newly discovered variables are listed. The next column contains the ΔB values, i.e. the estimated magnitude differences. In the last column we give the Küstner numbers (Küstner, 1933).

Table I

N	X	Y	ΔB	K
104	-10.2	42.1	1.1	542
105	- 6.0	15.5	0.8	
106	- 5.1	9.5	0.9	
107	- 0.3	- 4.0	1.0	
108	9.2	- 2.6	0.6	
109	19.2	1.5	1.0	
110	23.8	16.4	0.5	
111	24.2	- 3.4	0.6	
112	28.7	-31.4	1.1	
113	28.8	-33,9	0.8	
114	29.7	- 2.5	1.4	716

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