mCPod — Three Years Later

Janík J.¹, Mikulášek Z.¹, Szász G.¹, Zejda M.¹, Zvěřina P.¹, Zverko J.², Žižňovský J.²

Abstract. We present new progress in our extensive project mCPod (*On-line database of photometric observations of magnetic CP stars*), which was initiated five and a half years ago (Mikulášek et. al, 2007). The nascent database that contains now more than 215 thousand photometric measurements of the most important 157 mCP stars will be continuously supplemented with published or new photometric data on these and also additional mCP stars.

Key words: chemically peculiar stars – magnetic stars – photometry

1 Structure and Content of the Database

Using the NASA ADS (http://adsabs.harvard.edu/abstractservice.html) and the SIMBAD (http://simbad.ustrasbg.fr/Simbad) services we collected photometric observations of 157 magnetic CP variable stars now available and satisfying the requirements of many sources. We also obtained some observations as private communications from other authors. Most of the mCP stars were observed in the Strömgren uvby photometric system (Strömgren, 1966) and the HIP-PARCOS (ESA, 1997) system, observations were also performed in other systems, e.g., the Johnson international photometric system (Johnson and Morgan, 1951), Geneva (Golay, 1972), 10-colour photometry (Schöneich et al., 1976), Walraven (Walraven & Walraven, 1960) and Maitzen (Maitzen, 1976) systems. Recently we included this year data from the project ASAS (http://www.astrouw.edu.pl/asas/) and NSVS database (http://skydot.lanl.gov/nsvs/nsvs.php). In the future we expect the list to be extended to more than 400 stars with photometric observations.

The database consists of two parts, the Data and the References. In the References one finds the sources of data, the bibcodes including links to the corresponding papers, names of comparison and check stars (if available), the number of observations in individual filters (see Fig. 1).

We calculated the mean values of magnitudes, the error of one measurement and the effective amplitudes in particular filters presented in this part from all the data sets of a given star. We define the effective amplitude A_{eff} as:

$$A_{\rm eff} = \sqrt{8 \int_0^1 (m(\varphi) - \overline{m})^2 d\varphi},$$

where φ is the phase, $m(\varphi)$ is a colour light curve and \overline{m} is its mean value. The factor 8 is selected so that the effective amplitude of the sine light curve corresponds to the amplitude of the observed one.

When using the data by means of this database, the original sources linked at the *References* should be cited.

The Data contains photometric observations and offers various possibilities for retrieval, e.g. photometric systems and epochs of observation. After submitting the selection, a tabulated list

Department of Theoretical Physics and Astrophysics, Masaryk University, Brno, Czech Republic

² Astronomical Institute, Slovak Academy of Sciences, Tatranská Lomnica, Slovak Republic

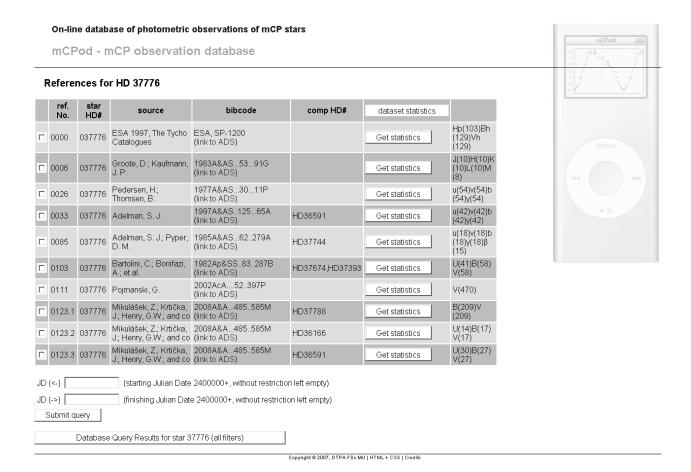


Figure 1: Response of *Database* in the *References* part.

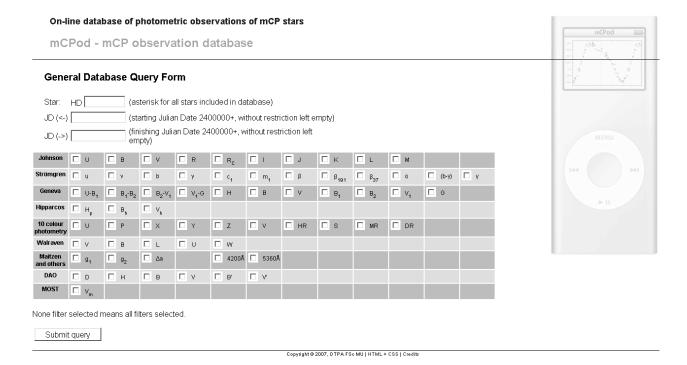


Figure 2: Query form for selecting filters/indexes.

Johnson	Strömgren	Hipparcos	Geneva	10-colour	Walraven	Maitzen
				photom.		and other
U=1	u = 20	$H_{\rm p} = 30$	$U - B_1 = 36$	U = 50	V = 60	$g_1 = 70$
B=2	v = 21	$B_{\rm h} = 31$	$B_1 - B_2 = 37$	P = 51	B = 61	$g_2 = 71$
V = 3	b = 22	$V_{\rm h} = 32$	$B_2 - V_1 = 38$	X = 52	L = 62	$\Delta a = 72$
R = 4	y = 23		V_1 - $G = 39$	Y = 53	U = 63	
$R_{\rm C} = 5$	$c_1 = 24$		U = 40	Z = 54	W = 64	4200Å = 75
I = 6	$m_1 = 25$		B = 41	V = 55		5360Å = 76
J = 7	$\beta = 26$		V = 42	HR = 56		
H = 8	$\alpha = 27$		$B_1 = 43$	S = 57		
K = 9	(b-y) = 28		$B_2 = 44$	MR = 58		$\underline{\text{MOST}}$
L = 10	$\gamma = 29$		$V_1 = 45$	DR = 59		$V_{\rm m} = 100$
M = 11			G = 46			

Table 1: Codes of filters and colour indices of photometric systems

of information on the data available is displayed (see Fig. 2). Besides the HD, the filter number and the number of the records found, one can extract the data in the ASCII format ('TXT'). The data are also plotted in two formats ('PNG' and 'EPS'). The data extracted contain the following columns: the HD number, the HJD-2400000, the magnitude or magnitude difference, the error of the individual measurement when given (otherwise 0.0000 is shown), the filter number, and the reference code. The database mCPod of 157 CP stars, largely magnetic ones is accessible at

http://astro.physics.muni.cz/mcpod

A reader can visit it and kindly send us comments, suggestions or recommendations. They will help us to improve the future versions of the Database.

Acknowledgements. This research has made use of NASA's Astrophysics Data System and SIMBAD services. The work was supported by the grant of $GA\check{C}R$ 205/08/0003.

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