TABLE 2

TRANSFORMATION COEFFICIENTS OBTAINED FOR THE TWO OBSERVING SEASONS

Season	B	D	F	J	H	I	L
2009	−0.005	0.975	1.002	0.037	1.008	−0.067	−1.397
σ	0.051	0.032	0.045	0.033	0.049	0.067	0.031
2010	0.002	0.962	1.021	0.025	0.991	−0.006	−1.309
σ	0.013	0.003	0.034	0.002	0.042	0.145	0.021

Table 3 lists the photometric values of the observed stars for the NGC 6811 cluster. In this table we list the following: Column 1, the ID number as in WEBDA, which follows Lindoff's nomenclature; Columns 2 to 6 the measured photometric values (N denotes the times each star was measured) the next five columns list the standard deviations from our photometry and the final columns, the spectral type for each star, determined from the $[m1]$ $[c1]$ diagram and from WEBDA and Becker (1947). The agreement between the spectral types deduced from the photometry with that reported by spectroscopic methods is interesting to note. Although there is consistency among the three values, there also is some disagreement among them. For example, W113 has spectroscopic types A4 and A8 from WEBDA and Becker (1947), respectively and there are some stars (W16 and W37) that are defined as early type stars from the spectroscopy and as later types from the photometry. Nevertheless, we note that, in general, the spectral types are coincident within the three mentioned sources. The remaining stars we classified do not have reported spectral classes. Table 4 lists in Column 1 the ID of WEBDA, Columns 2 to 6 the photometric values, Column 7 the spectral type derived from the photometry and Columns 8 and 9 the spectral types listed by WEBDA which are, respectively, Hoag & Applequist (1965) and Turner (1976).

2.2. *Comparison with other photometries*

Since no $uvby-\beta$ has been previously obtained for these clusters, a comparison of our values was made with the available UBV photometry reported in WEBDA.

NGC 6811. We compared our 2009 season photometry with that reported by WEBDA. The intersection of both sets is constituted of seventy five stars, some of them (four) showing a large difference, greater than 0.5 mag in V. There were some others (six) with differences larger than 0.1 mag. In view of this we planned and carried out a second campaign in 2010. Table 3 reports the mean values of the two observing campaigns; N indicates the number of measurements for each star. Among the stars with large differences found in the 2009 season and WEBDA, five were measured in both observational campaigns showing small differences between them. Hence, with high probability, the discrepancies cannot be attributed to our measurements because (i) these stars were measured in two different seasons one year apart by different observers and (ii) the measured standard stars show reasonable values when compared to the standard literature values. Hence, the differences can be due to either a misidentification of the star by previous authors or a variable nature of these stars. Despite these differences, a linear fit between both sets yields the equation $V_{(\mathrm{pp})} = 0.82+0.97\,V_{(\mathrm{WEBDA})}$ with a correlation coefficient of 0.97 and a standard deviation of 0.25. The color relationship yields $(b-y) = 0.06+0.57\,(B-V)$ with a correlation coefficient of 0.92 and a standard deviation of 0.09.

NGC 6830. This cluster was compared with those UBV values reported by WEBDA for a set constituted of only seven stars. The linear fit between both sets gave the equation $V_{(\mathrm{pp})} = 0.477 + 0.958 \times V_{(\mathrm{WEBDA})}$ with a correlation coefficient of 0.997 and a standard deviation of 0.080. The relationship in $B-V$ and $b-y$ gave $(b-y) = 0.117+0.573\times(B-V)$ with a correlation coefficient of 0.922 and a standard deviation of 0.022.

3. METHODOLOGY

In order to determine the physical characteristics of the stars in each cluster this procedure was followed.

The evaluation of the reddening was done by first establishing, as was stated above, to which spectral class the stars belonged: early (B and early A) or late (late A and F stars) types; the later class stars