

CEPHEUS OB3: SEARCH FOR FAINT MEMBERS

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Johnson *UBVRICCD*-photometry was performed for 18 fields ($3' \times 4.4'$) in the association Cepheus OB3 using the 1.23m telescope of CAHA at Calar Alto (Almería, Spain). A total of 1055 stars was detected and the sample is complete down to $V \approx 19$ mag, although only 130 stars were measured with the five filters.

Individual reddening solutions were calculated on the ($B-V$, $U-B$) plane, and distances were determined using the ZAMS by [1]. Taking the average colour excess and distance modulus given by [2] and [3] with an acceptance margin of $\pm 2\sigma$, at least one reddening solution fulfills the excess and distance conditions for 25 stars, which are proposed as new member candidates. They have $11.1 < V < 16.6$ mag and $-0.17 < B-V < 0.61$ mag. Eight candidates were observed in *uvby- β* with the JKT at El Roque de los Muchachos (Canary Islands, Spain). Four of them are confirmed as members, and the other four are proved to be nonmembers. The four new members are of spectral type B, with $12.75 < V < 13.37$ mag. Other candidates need further investigation to confirm or deny their membership.

The number of stars observed was compared with preliminary star-count predictions given by the Galaxy model from [4], and the results are compatible with the existence of members down to $V \approx 15$ mag.

References

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