Star clusters: basic galactic building blocks
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UBVRI CCD photometric study of southern open star clusters observed at Pico dos Dias Observatory (LNA/Brazil)

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Abstract. Open clusters have long been recognized as important objects to investigate aspects of Galactic structure such as the location of spiral arms, Galactic dynamics or even the chemical-abundance gradients in the Galactic disk. Great effort has been dedicated to studies of these objects throughout the past few years to determine parameters like age, distance, reddening, metallicity as well as kinematic information in a systematic and consistent manner. In this work, we present results on several open clusters selected from the DAML02 catalog that have been observed and investigated for the first time. CCD *UBVRI* (Johnsons–Cousins system) observations were carried out in 2009 using the 60 cm telescope of the Pico dos Dias Observatory (LNA/Brazil). The color–color and color–magnitude diagrams were analyzed for each cluster with the help of a program written by our group, which allows handling photometric and astrometric data simultaneously. We determined the fundamental parameters (reddening, distance and age) using the main-sequence fitting method, taking into account kinematic information of individual stars in the clusters. The mean proper motion and radial velocity were estimated using a set of stars selected photometrically.

Keywords. Hertzsprung–Russell diagram, open clusters and associations: general

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The full poster (in pdf format) is available at
`http://www.astro.iag.usp.br/~iaus266/Posters/pCosta-Caetano.pdf`.