the bulge, using photometry provided by the VISTA Data Flow System. The goal of this project is to duly provide science-ready data products in the form of a simple on-line database which may serve as the basis for various specific studies from stellar pulsation to microlensing, conducted by the VVV community. I will discuss the main steps of the procedure, the characteristics and possible uses of the database, the current status of the project, and will conclude by highlighting selected results.

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PARAMETERS FOR SMC CLUSTERS FROM CMD MODELING

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Stellar clusters in the Small Magellanic Cloud are fundamental pieces to study the chemical and dynamical evolution of this neighbouring dwarf galaxy, enabling inspection of a large period covering ∼10 Gyr. The main goals of this work are the derivation of age, metallicity, distance modulus, reddening, core radius and central density profile for each cluster, and place them in the context of the Small Cloud evolution. The studied clusters are: AM 3, HW 1, HW 34, HW 40, Lindsay 2, and Lindsay 3, where HW 1, HW 34, and Lindsay 2 are studied for the first time. Optical colour-magnitude diagrams (V, B-V CMDs) and radial density profiles were built from images obtained with the 4.1m SOAR telescope, reaching V ∼ 23. The determination of structural parameters were carried out applying King profile fitting. The other parameters were derived in a self-consistent way by means of isochrone fitting, which uses the likelihood statistics to identify the synthetic CMDs that best reproduce the observed ones. Membership probabilities were determined comparing the cluster and control field CMDs. Completeness and photometric uncertainties were obtained performing artificial star tests. The results confirm that these clusters (except HW 34, identified as a field fluctuation) are intermediate-age clusters, with ages between ∼1 and ∼5 Gyr. Their metallicities follow the age-metallicity relation by Pagel & Tautvaisiene (1998), with some spread as described by Parisi (2009) and Piatti (2011). In particular HW 1, Lindsay 2, and Lindsay 3 are located in a region that we called West Halo. (Based on paper by Dias et al. 2013, A&A, accepted; arXiv: 1311.4579).

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A PSF-FITTING PIPELINE FOR VVV-ESO: THE STAR CLUSTER PISMIS 24

R. A. G. Dias[1] and C. Bonatto[1]

Este trabalho apresenta um algoritmo para a extração de dados fotométricos do catálogo *"VISTA Variables in the Via Láctea"* (VVV) do ESO. A principal característica do algoritmo é evitar a interação com o usuário mantendo precisão e profundidade fotométrica, de fato o algoritmo foi capaz de gerar dados mais precisos para as estrelas menos brilhantes (J $\gtrsim$ 16, H $\gtrsim$ 15,5 e H $\gtrsim$ 15) e confiável fotometria para estrelas mais de uma magnitude mais fracas do que as detectáveis com outras técnicas. Embora o algoritmo obtenha resultados menos precisos para as estrelas mais brilhantes, este provou ser o método mais adequado, uma vez que queremos trabalhar com aglomerados abertos jovens, onde a pré-sequência principal é de maior importância. Além disso, podemos combinar 2MASS e VVV para substituir as estrelas saturadas do VVV.

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PROPER MOTIONS OF PRE-MAIN SEQUENCE STARS

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The kinematic study of young stars is an important tool to discuss the early stages of star formation. In this context, proper motions allow us to detect moving group structures of young stars to which they belong. Individual distances to moving group members can be inferred from proper motion and radial velocity data using the convergent point strategy. The main objective of this work is to determine proper motions of pre-main sequence stars in nearby star-forming regions. This work represents an improvement of an existing database by including more pre-main sequence stars and refining the astrometry for