

THE “EX”-CLUSTER A3565

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The Hydra-Centaurus Supercluster presents three main concentrations: two in the vicinity of the Hydra and Centaurus clusters, while the third is the so-called Centaurus Concentration at $\alpha \sim 13^h 30^m$ and $\delta \sim -30^\circ$. Through the use of an objective group-finding algorithm applied to a sample limited at $B(0) = 14.5$, Willmer (1990) was able to find about 20 groups and poor clusters of galaxies in this region. That work showed that three of the groups belonging to the Centaurus Concentration had estimated masses of the order of $10^{14} M_\odot$ ($H_0 = 100 \text{ km s}^{-1} \text{ Mpc}^{-1}$). Subsequent work by Willmer et al. (1991) confirmed the masses for two of these groups: A3574 and S753. Here we present some results for what would be the third most massive cluster in the region: A3565.

The sample we analysed was derived from PDS scans of ESO B and R on-film copies of the ESO/SRC Survey, covering a region of $(1.4 \times 1.4 \text{ Mpc})$ at the cluster distance ($V_\odot = 3822 \text{ km s}^{-1}$). Spectra for about 40 galaxies brighter than $m_B \sim 16.5$ were obtained using the telescopes at the Complejo Astronómico El Leoncito, Argentina and Laboratório Nacional de Astrofísica, Brazil. From the redshift measurements, a total of 19 galaxies belonging to A3565 were detected, the majority brighter than $m_B = 16$. Beyond this magnitude most of the measured galaxies are background objects. We have measured a velocity dispersion of 171 km s^{-1} for A3565, implying in a mass of $1.5 \times 10^{13} M_\odot$. These values are consistent with the properties of groups of galaxies, suggesting that the classification of A3565 as a richness class 0 cluster by Abell et al. (1989) could have been due to a significant contribution of background galaxies.

Abell, G.O., Corwin, H.G., & Olowin, R.P. 1989, ApJS 70, 1
Willmer, C.N.A. 1990, Ph.D. Thesis, Observatório Nacional
Willmer, C.N.A., et al. 1991, AJ101, 57

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AN EDUCATIONAL COLLABORATION
EXPERIENCE: ASTRONOMICAL
OBSERVATORY “LOS MOLINOS” (ALICANTE,
SPAIN)

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The astronomical observatory “Los Molinos” is equipped with a main 40-cm reflector telescope and an OPTEC SSP-5 photometer with a set of Strömgren and $H\beta$ (narrow and wide) filters. We aim to prove that with this modest equipment it is possible to carry our research in standard and differential photometry and, furthermore, to obtain results comparable to those of some professional observatories. The spectral response of the filters was analyzed in the Optics Laboratory of Alicante University, and proved to correspond to transmission of standard filters. Standard stars from the list of Perry, Olsen, & Crawford (1987) were observed and the transformation to the standard system was performed using Crawford & Barnes’s (1970) equations. The scale coefficients obtained were as follows: D, F and H are very close to 1 which implies that the system is very similar to the standard one. Precision obtained in the colours is better than 0.01, similar to professional observatories. The precision in V was not as good, probably due to the characteristics of the site. We have participated in Observation International Campaigns of rapid variables type Be, in Lambda Eridani and Theta Corona Borealis, obtaining 0.7 days for the former with an amplitude of 0.012 in V and 0.018 in u. This research has been developed within the framework of collaboration among professional astronomers, students and enthusiasts with the aim of enhancing knowledge of scientific methods and observational techniques.

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