NGC 5252 show a red nucleus, which indicate high nuclear extinction and therefore dust in front of these Seyfert nuclei. These four galaxies are Seyfert 2 type, thus this result supports the idea that the type 2 nuclei can be very reddened Seyfert 1 nuclei.

PHOTOMETRY OF THE CENTRAL REGIONS IN A SAMPLE OF BAUTZ-MORGAN TYPE I, I-II AND II ABELL CLUSTERS

H. Quintana[1,2], L. Infante[1], P. Fouque[3], E.R. Carrasco[1], H. Cuevas[4], G. Hertling[1], and I. Nuñez[5]

We report CCD photometry of the central regions of 209 Abell clusters of Bautz-Morgan type I, I-II and II. The areas covered from $5.'8 \times 5.'8$ to $20.' \times 20.'5$. We performed *Total* photometry in the *Gunn r* bandpass, classified stars and galaxies and obtained structural parameters for the images. We modelled realistic simulation of stars and galaxies and ran our classification algorithms to estimate photometric and structural errors. The magnitude errors range from rms $\leq \pm$ 0.07 mag at r = 17 to $\pm$0.3 mag at r = 21. Errors in the photometric zeropoints are negligible.

We estimated the absolute magnitude of the brightest cluster member (BCM) in each cluster by aperture photometry with radii of 16.0 kpc and 35.9 kpc (we adopted $H_o = 60$ km s^{-1} Mpc^{-1} and $q_o = 0.5$). The Digital Sky Survey was used to obtain accurate positions of BCM galaxies. Magnitudes were corrected for evolutionary, k —correction and absorption. We also have compared our metric fixed aperture data with values in the literature. More than 90% of the measured galaxies in common compare well (within 0.1 mag). The discrepancies seem to be due to the presence of dumbbell and multiple nuclei galaxies, which implies centering ambiguities. We derive the Hubble diagram for the clusters, which comprise a redshift range out to z = 0.25, from which we obtain a Hubble constant of $H_0 = 79 \pm 20$ km s^{-1} Mpc^{-1}.

The data will be used to analyze the environments of BCM's and to derive luminosity functions and density profiles of the sample.

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[1]Departamento de Astronomía y Astrofísica, P. Universidad Católica de Chile, Santiago, Chile

[2]Visiting Astronomer, Las Campanas Observatory (Carnegie Institution of Washington)

[3]Present address: European Southern Observatory, Santiago, Chile

[4]Present address: Instituto Astronomico e Geofisico, Universidade de Sao Paulo, Sao Paulo, Brazil

[5]Universidad de Santiago de Chile, Santiago, Chile

THE SHAPLEY SUPERCLUSTER: THE DENSEST NEARBY MATTER CONCENTRATION

H. Quintana[1,2]

The Shapley Supercluster is a complex comprising dozens of clusters of galaxies at z = 0.044 – 0.052 that forms the densest, most massive region within z $\leq$ 0.1. It is centered on A3558 and has a half dozen clusters at its core (A3558, A3552, A3556, A3562, SC1327–313 and SC1329–314) with an elongated E-W shape. We have sistematically measured redshifts of galaxies over an area 7° × 10°, and less sistematically over a wider field. From the distribution of more than 1000 velocities we have shown the supercluster to have a pancake shape. For 10 clusters with enough data we have calculated velocity dispersions and virial masses. A dynamical analysis sets a lower limit to the supercluster mass of $0.5 \times 10^{16}\ h^{-1}\ M_\odot$ and a likely upper limit of $10^{17}\ h^{-1}\ M_\odot$, which is 2 to 9 times lower than needed to explain the local cosmic flow or the Cosmic Background anisotropy by the pull of the supercluster alone (Quintana et al. 1995, AJ 110, 463). A velocity survey of other probable cluster members shows that A3554 and A3577 are members, while A3524, A3531, A3542, A3545 and A3549 are background clusters, but A3581 is a foreground system (Quintana et al. 1996, A&A, submitted).

Photometry of galaxies on 16 SRC/ESO R survey plates, down to R = 18.5 and over an area 10° in radius is underway from scans done by the MAMA machine in Paris. Calibrations are based on stars and galaxies from 9 to 13 spots on each survey plate, already observed in several sessions using CCD's at Las Campanas and La Silla. Velocities for more than 3000 galaxies and density maps will be used to follow internal walls and filaments interconnecting clusters and groups. We expect to obtain a good model of the distribution of galaxies in the supercluster and to set limits for cosmological theories of the formation of galaxy structures.

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[1]Departamento de Astronomía y Astrofísica, P. Universidad Católica de Chile, Santiago, Chile

[2]Presidential Chair in Science