JF PHOTOMETRY OF FOURTEEN DISTANT RICH CLUSTERS OF GALAXIES

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ABSTRACT

We have recently completed a photometric study of fourteen rich clusters of galaxies in the redshift range $0.18 \lesssim z \lesssim 0.39$. The data are based on JF photographic photometry of each field. We report on the analysis of the cluster galaxy colour distributions; in particular we find that all the clusters in our sample with $z \gtrsim 0.26$ contain an excess number of blue galaxies (i.e., show the Butcher-Oemler effect). The blue excess, which was measured in terms of the ratio of the fraction of blue galaxies observed to that expected on the basis of Dressler's (1980) [morphological mix, local projected galaxy density]-correlations, ranges from 2 to $\sim$5. The highest value of 4.8 found in the cluster C10024+1654 (z=0.39), confirms Butcher and Oemler's (1978) observations of this cluster.

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