Schmidt: Yes, I correct for this effect.

Ambartsumian: Have the clusters to which Seyfert galaxies belong any special peculiarities?

Schmidt: No, they are normal clusters.

THE RESULTS OF OBSERVATIONS OF DOUBLE GALAXIES IN THE UBV SYSTEM

Aleksander Tomov

In the Astronomical Observatory of the town of Belogradchik a one-channel electrophotometer in the UBV system with pulse counting has been installed at the 60-cm Cassegrain telescope. The photoamplifier used is of the type EMI 6256B (1). With this telescope the author has carried out observations of 80 double galaxies during the period 1974 to the middle of 1977, using the differential method of observation with 3 diaphragms (24", 54" and 135") depending on its diameter.

The most important results are the correlation between the colour indices of individual components of double galaxies, Holmberg having obtained the correlation coefficient $R_{(B-V)} = 0.80 \pm 0.06$ (2).

The author set himself the aim of checking the degree of correlation for the two colours (B-V) and (U-B) for individual classes of double galaxies; E-E and S-S - 60 double galaxies and E-S - 20 double galaxies.

The correlation coefficients R for the 60 double galaxies (E-E and S-S) are $R_{(B-V)} = 0.885 \pm 0.046$ and $R_{1(U-B)} = 0.824 \pm 0.067$.

The correlation coefficients for 20 double galaxies (E-S) are $R_{(B-V)} = 0.620 \pm 0.085$ and $R_{1(U-B)} = 0.512 \pm 0.098$.

In addition the author selected individual galaxies taken from reference (3) randomly together as double galaxies. It turned out that in this case, too, there is a correlation between the colour indices.

The correlation coefficients R' for 55 randomly selected pairs of E-E and S-S galaxies are

$$R'_{(B-V)} = 0.580 \pm 0.072$$

$$R_1'{}_{(U-B)} = 0.382 \pm 0.085.$$

For E and S galaxies selected randomly, the 27 pairs have correlation coefficients

$$R'_{(B-V)} = 0.125 \pm 0.090$$

$$R_1'{}_{(U-B)} = 0.084 \pm 0.098.$$

(1) Tomov, A., 1973. Bulletin of the Astronomical Observatory of Varna, Bulgaria.
(2) Holmberg, E., 1958. Medd. Lund Astr. Obs., Ser II, No.136.
(3) de Vaucouleurs, G., 1972. "Integrated magnitudes and colours for bright galaxies in the UBV system".

ON THE ORIGIN AND EVOLUTION OF PAIRS OF GALAXIES THAT HAVE DIFFERENT PHYSICAL AND KINEMATIC CHARACTERISTICS

I. Pronik and L. Metik

We have gathered data on U,B,V,K magnitudes, radial velocities, spectra, morphological types, radio-emission, dimensions and other characteristics for 47 pairs of galaxies (Metik and Pronik 1978). The following results were obtained:

1. Colour indices of members of pairs are given in figure 1. It shows that the pairs divide into three separate sequences. Red galaxies with (U-B) > + $0^m\!.5$ co-exist with galaxies of any colour, whereas blue galaxies co-exist only with blue or very red ones. Moreover in the pairs of mixed colour the smaller the colour index of the blue galaxy the redder is its component. Pairs of blue galaxies form a separate group (sequence I). Both members of this sequence have either negative or small positive colour indices (U-B). The rest of the pairs of galaxies form sequences II and III. They lie along two lines corresponding to (U-B) ∿ + $0^m\!.5$. Such colour index belongs to the brighter component (subscript 1) of the pairs of sequence II and to the fainter one (subscript 2) of sequence III. Members of pairs change their colours along each sequence: in I - both members, in II - the fainter component, in III - the brighter one.

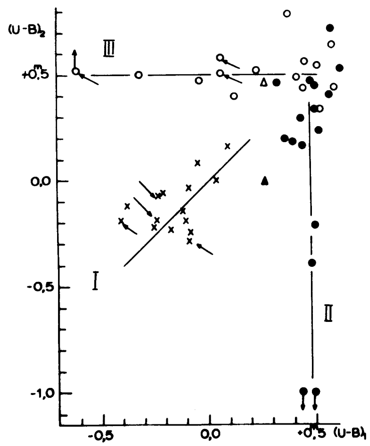

Figure 1. Correlation of colour indices of members of pairs. Crosses - pairs of sequence I, dots - II, and circles - III.

2. Sequences of pairs selected according to their colours show also differences in radial velocities (V_r). Pairs of sequences I and II have on average smaller differences in radial velocities than those of sequence III. Moreover sequences II and III show a dependence of $\lg|\Delta V_r|$ on $\Delta|(U-B)|$: $\lg|\Delta V_r|$ decreases with decreasing $\Delta|(U-B)|$ in sequence II whereas in sequence III we have the opposite case.