MARKARIAN GALAXIES WITH DOUBLE AND MULTIPLE NUCLEI

E. Khachikian

Saakian, Petrosian and I have studied the central regions of Markarian galaxies using observations made with the SAO 6-metre telescope and the 2.6 m and 0.5 m telescopes of the Burakan Observatory. In a paper soon to be published, we show that in those galaxies which have strong ultraviolet excesses, i.e. Markarian Galaxies, double or multiple nuclei are found with a significantly greater frequency than they are in ordinary galaxies. This result suggests that these are among the most active nuclei. The photographs in our paper show the 60 examples of double or multiple nuclei found in the first 8 lists of Markarian galaxies.

DISCUSSION

A.V. Zasov: How often do the wide emission lines occur in such galaxies?

Khachikian: Usually about $\sim$ 85% of all Markarian galaxies have emission lines.

EQUIDENSITOMETRIC DETERMINATION OF ANGULAR DIAMETERS AND MEAN SURFACE MAGNITUDES OF COMPACT GALAXIES

W. Högner and N. Richter

In a previous publication (1975) we showed that it is possible to determine the maximum diameters of galaxies on photographic plates by means of the photographic equidensity method. This method was applied especially to 235 members of the Coma cluster. On Tautenburg plates it was possible to determine for these objects equidensitometric angular diameters down to 10 arc sec.

The next step of our investigation was to apply this method to more than 700 compact galaxies selected in 4 fields around the globular cluster M3 near the galactic North pole. It was found that it is possible to determine real angular diameters down to 5 arc sec to 17 and partly 18 magnitude on Tautenburg plates in the V system if the conditions of seeing are 2 arc sec or better. Figure 1 shows the diameter-magnitude diagrams for one of these fields both for stars of the standard sequence around M3 and for the compact galaxies. The diameters of the compact galaxies clearly lie above the straight line, which represents the diameter-magnitude relation for the standard stars. From this result we conclude that these equidensitometric diameters of compact galaxies are real angular diameters and not produced by scattering effects due to seeing or diffusion in the photographic emulsion.

Using these diameters it was possible to determine the mean surface brightness of the compact galaxies from the integral brightness already determined by iris photometry.

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