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Multicolour Photography of Galaxies at the Crimean Observatory

I should next* like to read a short communication from I. M. Kopylov, V. B. Nikonov, K. E. Chuvaev, and A. B. Severny which describes an attempt they have made to carry out multicolour photography with the 2.6 m. reflecting telescope of the Crimean Observatory.

Photographs of 58 galaxies were taken last July at the primary focus ($f = 10$ m.) of the new 2.6 m. reflecting telescope of the Crimean Observatory. Photographs were obtained with the aid of an image tube. Four filters were used: (Table 1).

TABLE 1

<i>Filter</i>	λ_{max}	λ
H α	6580	70
"6100"	6120	150
"V"	5300	680
"B"	4330	900

*Dr. Ambartsumian made some preliminary remarks of his own but no manuscript of these was received for publication.—Ed.

The main purpose was to obtain data about the structure of the nuclei of galaxies, especially in $H\alpha$ light.

Some galaxies show jets visible only in $H\alpha$, and also show the complex structure of their nuclei, especially in $H\alpha$ light (NGC 1569, NGC 4490). In other galaxies, these jets are stronger in the continuum, as, for instance, in the radio-source Virgo A (NGC 4486).

In the peculiar nebula NGC 4151 the nucleus is more extended in $H\alpha$ light than in the continuum and even in blue light.

As a rule, a strong emission in $H\alpha$ is accompanied by concentrations of hot luminous stars (NGC 4214); however, there are some exceptions in which we cannot find any traces of hot luminous stars at the places of strong $H\alpha$ emission (NGC 604).

The hydrogen emission is well pronounced in Sc and Sb spirals and is connected with groups of hot luminous stars (for instance, NGC 4736, NGC 6946, and M 51). The strong $H\alpha$ emission is observed also in most irregular galaxies (NGC 1569).