

A SEARCH FOR GALAXIES IN VOIDS - FIRST RESULTS

G.T.PETROV, B.J.KOVATCHEV and A.A.STRIGATCHEV (Department of Astronomy, Bulgarian Academy of Sciences, Sofia, Bulgaria)

In the end of 1990, a new observational program was proposed by the Max Plank Institute of Astronomy, Heidelberg, Germany and the Department of Astronomy of the Bulgarian Academy of Sciences. The main task of the program was to check the lack of galaxies in some regions of the cosmic space - so called "VOIDS"[1]. The idea is to use the 2 - m telescope of the National Astronomical Observatory "ROZCHEN" with its large field of 10×10 . The program list contains one comparison field - the well known cluster of galaxies A 1376 with coordinates (1950) α : 11 40 54 and δ : +20x 07' 00" and about a dozen of voids.

Using the exposure time ca. 3, hours we reach a limiting magnitude ca. $B = 23$ i.e bigger than the POSS limit. The second step is detailed study of the most interesting objects using the CCD - camera.

As a result, more than 6000 new galaxies were found in the fields 0049 + 00, 1042 + 00, 1306 + 34, +35, +36, 1600 + 18 (Hercules) and 2320 + 1339.

Some qualitative evaluations have been made for the objects measured on the plates:

a) Diameters in conditional scale: 1- $\leq 1.9''$, 2- $\leq 3.6''$, 3- $\leq 5.7''$, 4- $> 5.7''$ and 5- $>> 5.7''$.

b) Brightness: B- Bright, N- Normal and L- Low brightness objects.

c) Morphology: R- Ring, L- Lenticular, Prolongate and I- Irregular. For the objects marked as " L " the position angle in degree has been added.

The authors are thankful to the Director of the Max Planck Institute of Astronomy prof. dr H. Elsasser - the initiator of this programme the measured complex and software of the Institute and to the Humboldt foundation for the financial support.

This work was supported from the Ministry of Education and Science under the grant F - 237 / 1992.

References:

- 1] Rood H. J., 1988, Ann.Rev.A&Ap.,v.26, p.245 -294.
- 2] Paturel G., P. Fouque, L. Bottinelli and L. Gouguenheim. 1989, Catalogue of Principal Galaxies, Observatoire de Lion (France).