

DATA RETRIEVAL IN THE METACATALOGUE OF GALAXIES

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To study the large scale structure of the Universe, we started several years ago the compilation of a new type of catalogue - a metacatalogue of optical extragalactic objects, on magnetic tape. This catalogue may be regarded to some extent as a data bank but it will also include characteristics, reduced to homogeneous systems. The Metacatalogue will contain information for galaxies, clusters of galaxies, counts of galaxies and bibliographical data. Until now some files for individual catalogues and lists have been created, which may be used also before their merging into the Metacatalogue.

1. GALAXIES

Zwicky galaxies (Zwicky et al, 1961-1968). The file contains sequential number, R.A. and Decl. (1950), NGC or IC identification, magnitude and remark, magnitude and classification by Shapley and Ames (1932), Bigay (1951), Pettit (1954), Humason, Mayall and Sandage (1956), Holmberg (1958) (all these catalogues have also been put on magnetic tape), redshift, number(s) of field(s). An abbreviation system is adopted for the remarks for the individual galaxies. E.g. B. = bar, BRS = brightest, CL = cluster, C = compact, DIF = diffuse, D = double, DW = dwarf, F = faint, G = galaxy, H = halo, LG = large, MSYS = multiple system, P = pair, R = ring, TSYS = triple system, V = very, and so on.

Zwicky compact galaxies (Zwicky, 1971) - contains sequential number R.A. and Decl. (1950), identification in the seven lists, magnitude.

Uppsala galaxies (Nilson, 1973) - the file includes all data : sequential number, coordinates, identification in other catalogues, PSS number, location in "near" Zwicky clusters, diameters, positional angle, inclination, information parameter, classification by Hubble, van den Bergh and Vaucouleurs, description, magnitude, redshift and notes. The vocabulary of abbreviations for Zwicky galaxies is used, but some other abbreviations are added : ASYM = asymmetric, COND = condensation,

GR = group, SYMB = symbiotic, and so on. In this file an extensive coded system is used to represent a greater amount of information in machine readable form - specially for diameters, classification, magnitudes, and partly for notes.

Vorontsov-Velyaminov galaxies (Vorontsov-Velyaminov et al, 1961-1974) at present contains only sequential numbers by fields, R.A. and Decl. (1950), identification in other catalogues, magnitude, diameters, intensities and inclination (without morphological description and notes).

Many other smaller catalogues and lists of galaxies are being entered on magnetic tape - e.g. Vorontsov-Velyaminov interacting galaxies, Markarian, Arakelian galaxies, ... All data will be merged together with RNGC data, information from de Vaucouleurs and de Vaucouleurs (1964) and de Vaucouleurs, de Vaucouleurs and Corwin (1976) catalogues to compile an extensive part for the galaxies in the Metacatalogue.

2. CLUSTERS OF GALAXIES

Abell clusters (Abell, 1958) contains his number, R.A. and Decl. (1950) m_{10} , distance group, richness group, galactic and supergalactic and Lambert coordinates, corrected cluster radius, mean apparent density, redshift (if any) and distance together with three space components for a newly calibrated $m_{10} - z$ relation.

Zwicky clusters (Zwicky et al, 1961 - 1968) includes sequential number, R.A. and Decl. (1950), type, population, diameter in cm on PSS, distance group, galactic and supergalactic and Lambert coordinates, radius in degrees, mean apparent density and number(s) of field(s).

Some lists for Abell, Zwicky or other clusters of galaxies are being entered on magnetic tape, together with additional information, e.g. Leir and van den Bergh (1977), Dressler (1980).

3. COUNTS OF GALAXIES

An important features of the Metacatalogue is the inclusion of counts of galaxies. We have on magnetic tape the following, starting with the classical counts of Hubble (1934,1936) through Zonn (1968), Rudnicki et al. (1973) to the famous Lick counts (Shane and Wirtanen, 1967) and the reduced Lick counts (Kiang, 1968) and other smaller-area results.

Data retrieval for these three large parts of the Metacatalogue (without references) can be carried out by equatorial, galactic, supergalactic and Lambert coordinates and by identification for any catalogue, included in the Metacatalogue. It is easy to create a sub-catalogue by some parameter - magnitude, population, distance group,

diameter, mean apparent density and so on. It is also very easy to create counts with any given cells for the galaxies from (1) and to compare with counts from (3).

Some of the files for Abell and Zwicky clusters, cross-identifications, Zwicky galaxies and explanations are in the CDS. We hope to publish in the near future extended explanations for data contents and lists of errors in the Zwicky, Abell, Nilson, Vorontsov-Velyaminov and some other catalogues.

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