

A NEW CATALOGUE OF QUASI-STELLAR OBJECTS

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We have prepared a new catalogue of QSOs and BL Lac objects containing approximately 3400 entries. A complete update of the Hewitt-Burbidge (1980) catalogue has been made with approximately another 2000 objects with known redshifts added. The references to discovery, magnitudes, redshifts, color, spectra and polarimetry have been updated for the objects listed in 1980, and complete new references are included for the new objects. In addition to the basic optical information, the new catalogue also contains X-ray, radio and infrared information for all objects. Absorption redshifts are listed when they are available. A supplementary catalogue which is now in preparation will contain similar information for objects described variously as Seyfert galaxies, N systems and AGNs. In doubtful cases we have used the operational dividing line $z = 0.1$. All objects with $z < 0.1$ are put in the supplementary catalogue unless their discoverers have unambiguously defined them as QSOs. With approximately twice as many objects included it is interesting to note that:

- a) There are still very few genuine BL Lac objects, ~100.
- b) The largest number of additions has come from identifications using the objective prism-grism techniques.

In Figures 1 and 2 we show the redshift-apparent magnitude (Fig. 1) and the distribution of apparent magnitudes (Fig. 2). Comparison of Fig. 2 with the corresponding histogram in our 1980 paper shows that the studies have by now gone somewhat fainter.

In Figures 3, 4, and 5 we show the redshift distribution for all objects (Fig. 3), for the objects identified by objective prism techniques (Fig. 4), and for the objects identified by position and/or color alone (Fig. 5).

Figure 4 confirms completely that the objective prism methods discriminate in favor of QSOs with $z > 1.8$, though the peak close to $z = 0.3$ should be noted.

Figure 5 shows a fairly uniform distribution from $z = 0.1$ to $z = 2.0$ with peaks superimposed on it at $z = 0.3, 0.6, 1.4,$ and 1.95 . These peaks were first seen in small samples in 1968, and we believe that they are real and not an effect of spectroscopic selection.

The very steep fall off in the number of QSOs beyond about $z = 2.3$

is apparent in Figs. 3, 4, and 5 and we believe it to be real. Only about 15% of the QSOs in the catalogue have $z > 2.3$.

We anticipate that this catalogue will be published in 1986. Tapes and reprints of the catalogue will be available upon publication from the authors. We are grateful for support from the National Science Foundation through grant AST-84-17650.

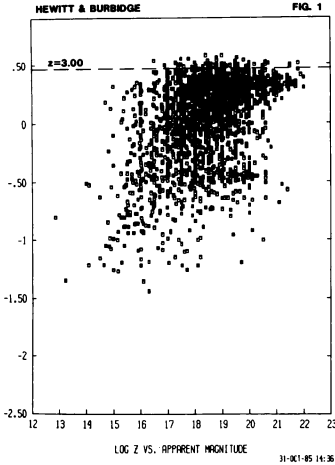


FIG. 1. The redshift - apparent magnitude relation.

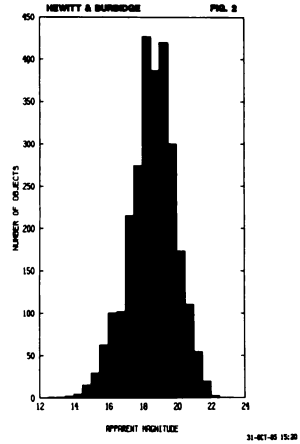


FIG. 2. The distribution of apparent magnitudes.

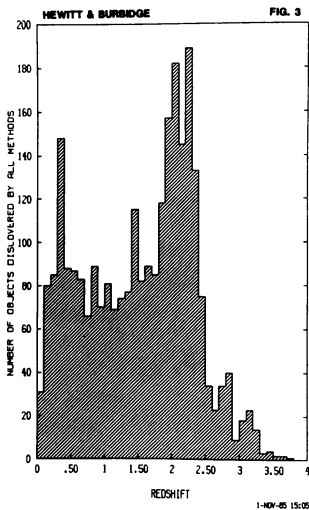


FIG. 3. Histogram of the redshift distribution for all objects contained in the catalogue.

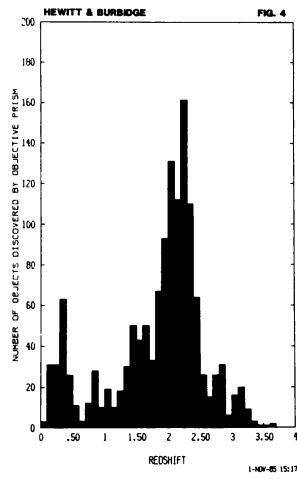


FIG. 4. Histogram of the redshift distribution for those objects identified by objective prism, prism or related techniques.

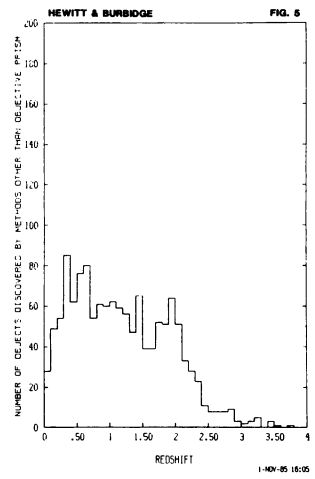


FIG. 5. Histogram of the redshift distribution for those objects identified by position and/or color alone.