

THE INDUS SUPERCLUSTER

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A survey of rich galaxy clusters, redshifts for many of those clusters, and galaxy counts by eye to $B = 19.0$ show the Indus Supercluster to be an annular (in projection) configuration of nine rich clusters at $0.073 < z < 0.080$ apparently connected by bridges of galaxies.

Photoelectrically calibrated photographic photometry of galaxy images on six U.K. Schmidt plates using the COSMOS machine at the Royal Observatory, Edinburgh, gave photometric information for about 150,000 galaxies. From this, the luminosity function of the Indus Supercluster was extracted. To $B = 21.5$, the Supercluster includes about 25,000 galaxies, its estimated total luminosity is $7 \times 10^{13} L_{\odot}$, and -- if its mass-to-light ratio is typical -- its total mass is $\sim 1 \times 10^{16} M_{\odot}$. Its diameter is about 40 Mpc. These parameters make it similar to other known superclusters.

In addition, the integrated apparent field luminosity function for galaxies, derived from the 140 square degrees of sky scanned on Schmidt plates by COSMOS, agrees with most previous determinations.

The general picture of a sponge-like cellular distribution of galaxies as developed by Einasto *et al* (1980 and references therein) is confirmed. Though there are some indications that this structure is primordial, neither data nor theories are yet sufficient to allow an adequate explanation of the development of such structure in a big bang universe. Details have been presented by Corwin (1981).

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REFERENCES

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