SEYFERT GALAXIES AND THEIR ENVIRONMENT

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The role played by environment on nuclear activity in galaxies is not clear and largely debated (see e.g. Barnes & Hernquist 1992, Kelm 1996). To overcome statistical uncertainties, environment properties of two large samples of Seyfert galaxies (Sy 1 and Sy 2 have been kept separated) have been computed and compared with equivalent size "normal galaxy" sample ones. Seyfert samples have been extracted from the Veron & Veron catalogue (Veron & Veron 1996), whilst "normal galaxies" have been randomly extracted from ZCAT (Huchra 1993). The samples are limited in cz ([1500-9500] km/sec) and contain 149 Sy 1, 173 Sy 2 and 160 "normal galaxies" (hundreds of random extractions from ZCAT). For each galaxy neighbors have been computed (from ZCAT) within two variables radii, R (isolation radius) and r (pair separation), which span [0.2 - 2] h_{100} Mpc. and [20-90]h_{100} kpc. respectively. Neighbors must lie also within 700 km/sec from the galaxy. In this way, for each value of R and r, environment of each galaxy has been "quantified".

The following results have been found for any value of R and r:

- Sy1 and Sy2 are significantly less isolated than "normal galaxies";
- Sy1 and Sy2 are marginally displaced from the mean locus of "normal galaxies" and tend to be more grouped;
- Sy1 and Sy2 are much more frequently members of galaxy pairs than "normal galaxies";
- Fractions of Sy1 and Sy2 in isolated galaxy pairs are 2 orders of magnitude larger than any analogous fraction of "normal galaxies".

References

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