Galaxy Clusters around Quasars?

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Studies of fields around QSOs from host galaxy to cluster scales have been established to explore the possible connection between AGN activity and its environment and to search for differences of environments as function of Quasar type and redshift.

Motivated by contradicting results from the literature regarding the galaxy clustering strength around Quasars, we have performed a deep and large imaging survey of fields around QSOs from low to intermediate z including recent VLT observations. We i) observed 130 QSOs, ii) considered radio–loud (RLQs) **and** radio–quiet (RQQs) Quasars, iii) focussed on intermediate redshift (where data are scarce), and, in particular iv) performed, explored and compared a variety of clustering analysis methods. These survey properties are in contrast to most previous studies.

One important aspect of our presentation will be the discussion of different clustering measurement methods and their impact on the obtained results. Altogether, we found that RQQs and RLQs reside mainly within comparable galaxy environments. Although the scatter in clustering strenght around the QSOs is large they seem to reside predominantly within compact groups of galaxies. Even QSOs within field galaxy environments show an excess of close companion candidates and in some cases clear evidence for tidal interactions with such galaxies.