

Comparing neighborhoods of quasars and inactive galaxies with the Galaxy and Mass Assembly (GAMA) survey through Monte Carlo simulation

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Active galactic nuclei (AGN) are galaxies which host active supermassive black holes (SMBHs) and present a crucial element in the evolution of galaxies. In this paper, we aim to contribute to the understanding of how the nuclear activity is related to its surrounding environment. We present results of an archival project, where we use the GAMA survey to compare the neighborhoods of quasars and inactive galaxies via Monte Carlo simulation. The GAMA survey project collected observations using the latest facilities for about 300,000 galaxies and provides a multi-wavelength photometric and spectroscopic data. For each seed-quasar or a comparison seed-galaxy, we select neighboring galaxies within a set volume. Our preliminary results show that there is no significant difference in any of the morphological or star formation properties between the neighbors of quasars and neighbors of inactive galaxies. This finding suggests that quasar activity is a phase in the life of a galaxy and is not dependent on its environment.

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