

Physical and chemical properties of narrow-line regions in $z \sim 3$ radio galaxies

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We focus on the high-sensitivity rest-UV spectra of 10 radio galaxies at $z \sim 3$ to diagnose the physical and chemical properties of the ISM in NLR for each object.

Method

observations



photoionization
model + χ^2 test

(n_{H}, U, Z : free parameters)

- uniquely determined without assumptions

Results

- Most objects show $Z_{\text{NLR}} > 1.0 Z_{\odot}$.



The NLRs of $z \sim 3$ radio galaxies are already chemically evolved.

(e.g., Nagao+06, Matsuoka+09)

