Quasar radio polarizations align with large quasar group major axes

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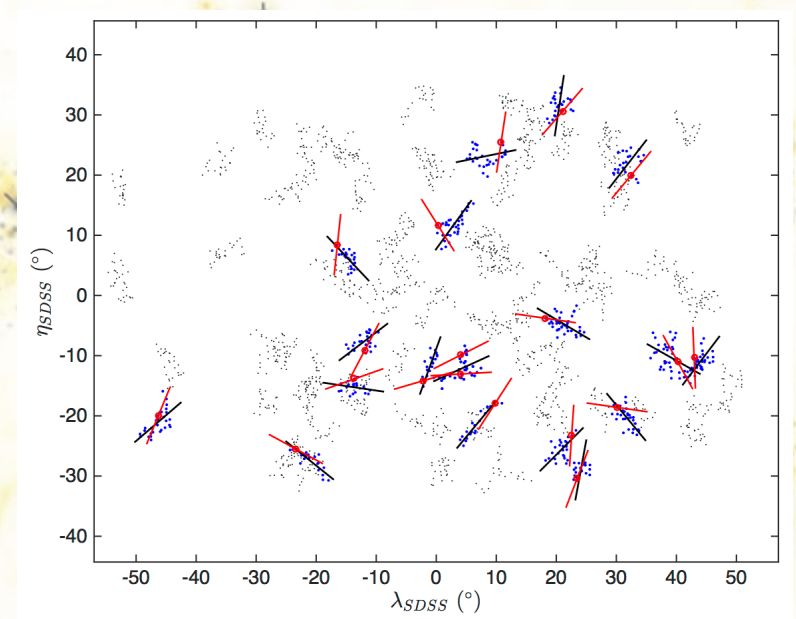

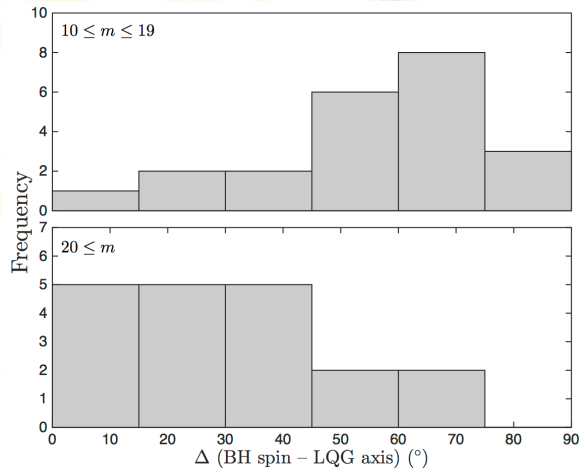

$P_{bin} = 0.85\%$

$P_{bin} = 0.96\%$

- LQG sample of [Einasto et al. (2014)]
- Polarization from JVAS/CLASS 8.4-GHz surveys [Jackson et al. (2007)]
- Radio polarization perpendicular to BH spin axis [e.g. Saikia & Salter (1988)]

- Alignment of BH spins with LQG major axes.
- Black hole spin axis orientations depend on the richness of the host LQG.

Black hole spin axes correlate with the major axes of their host LQGs at redshift 1.0 – 1.8

« Quasar polarization » : a promising tool to study these correlations at high z.