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The characteristics of galaxies with powerful radio jets

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Propositions associated with the thesis

The characteristics of galaxies with powerful radio jets

1. The galaxies that host high-luminosity radio loud active galactic nuclei (RLAGNs) are typically rounder than normal galaxies.

(Chapter 2)

2. At high redshift a higher fraction of high-luminosity RLAGNs reside in elongated galaxies than at low redshift.

(Chapter 3)

3. A merger-dominated history enhances the radio AGN activity.

(Chapters 2, 3, and 4)

4. Radio jets have a tendency to be aligned with the minor-axis of the hosting galaxy. *(Chapter 5)*

5. RLAGNs can also reside in disk-like passive galaxies and keep them red and dead.

6. The reason for the tight relation between the morphology of galaxies and radio jets will reveal the triggering mechanism of radio jets.

7. The direction of the black hole spin is as important as its amplitude.

8. Galactic-scale processes can determine the physical characteristics of the regions near the central supermassive black holes.

9. The worst thing about astronomy today is not that we cannot observe the moment when the universe was born, but that most people think we can only see the Milky Way through a telescope.

10. Conflict is the theme of human history. Individuals should feel very lucky if they don't share this view.

11. If a restaurant wants to serve "Chinese soup", the chef has to go to China for at least a month of training.

Xuechen Zheng
Leiden, August 2023