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## Dense Molecular Gas Tracers in Nearby Seyfert Galaxies

*Friday, 14 June 2024 13:00 (20 minutes)*

Dense gas tracers are not commonly observed in AGNs. The purpose of this project was to determine if the kinematics of the dense gas move in Keplerian orbits or are sensitive to out-flows/inflows as seen with CO gas. If the dense gas has ordered motion, it can possibly be used to measure the mass of the central black hole. In this project I analyse the dense molecular gas tracers in the centre of four nearby Seyfert galaxies measured by ALMA. For all four galaxies in our pilot study sample, CO gas is present, where two galaxies show rotation and two show signs of outflows.

I only detect dense gas (HCN, HCO<sup>+</sup>, CS, C<sub>2</sub>H) in one galaxy, NGC 4253. The question is if galaxy is special? In my poster, I will present the data and characterise the dense gas dynamics and kinematics and discuss its implications.

### Field of study

Astrophysics

### Supervisor

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**Session Classification:** Presentations