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# Molecular gas in/outflows in the nuclear regions of five Seyfert galaxies.

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## Abstract

One of the most challenging open questions in Astrophysics is how Active Galactic Nuclei (AGNs) are fueled. For this to happen, gas has to be driven from the outskirts of the galaxy to the nuclear regions. Different mechanisms such as bars (large-scale and nuclear), lopsided disks, m=1, 2 instabilities or warps have been suggested to remove the gas angular momentum at different spatial scales of galaxy disks. On the other hand, stellar and AGN feedback in the form of outflows prevents galaxies from becoming overmassive. In this work we present the results of interferometric observations of the cold CO(2-1) molecular gas and 1.3 mm continuum obtained with NOEMA of five nearby (mean luminosity distance of 34 Mpc) Seyfert galaxies. The superb angular resolution of the NOEMA data (∼0.6"∼100 pc) enables us to study the CO(2-1) morphology and kinematics as well as to measure the molecular gas content of the nuclear regions. Although all galaxies in our sample show evidence of non-circular motions in their nuclear regions, these are detected more clearly in the interacting systems. Our goal is to find out if these motions are related to molecular gas flows.