Extragalactic Astronomy at Georgia State University

Black Holes and Active Galactic Nuclei:
Monster black holes, with masses that are a million to a billion times more than our Sun, live at the centers of most galaxies. At GSU, we specialize in observational studies of feeding black holes in AGN that measure:
- black hole masses (Bentz)
- black hole feeding (Bentz, Crenshaw)
- black hole feedback (Crenshaw)

Dark Matter:
This mysterious gravitationally-attractive matter is prevalent in all galaxies, including our own Milky Way. We specialize in observational studies of:
- dark matter distribution (Kuzio de Naray)
- dark matter halo masses (Kuzio de Naray)

Galaxies:
Gravitationally-bound collections of stars and gas, galaxies are much more than just the hosts of supermassive black holes and the luminous centers of dark matter halos. We also specialize in observational studies that measure:
- galaxy distances and luminosities (Bentz)
- galaxy masses (Kuzio de Naray, Bentz)
- galaxy structures (Bentz, Kuzio de Naray)
- galaxy kinematics (Kuzio de Naray)
- galaxy metallicities (Kuzio de Naray)
- AGN/galaxy interactions (Crenshaw)

We carry out observations throughout the electromagnetic spectrum, including radio, infrared, visible, ultraviolet, and x-rays. We have dedicated access to ground-based telescopes, and a strong track record of winning competitive observing time at other ground-based observatories (e.g., WIYN, Gemini) and space-based observatories (HST, Chandra, XMM).

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