



PHYSICS AND ASTRONOMY SEMINAR

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Quenching of Star Formation in Massive Galaxies: Insights from X-ray Observations of their Gas Halos

A complete picture of galaxy evolution apparently requires an explanation of how galaxies regulate their own growth, and in particular, why massive galaxies eventually nearly cease forming stars. I will talk about some ideas out there, informed by simulations and observations, about the role of central black holes in regulating the star formation of galaxies. In our group, we have increasingly become convinced that a galaxy's central velocity dispersion " σ_v " — or equivalently, its central stellar density — is more important than its halo or stellar mass in determining whether it can quench its star formation rate, and keep it quenched. I will provide a perspective of how the central black hole affects and is affected by the conditions of gas in the galaxy's halo, informed by X-ray observations of galaxies, groups, and clusters of galaxies. I will delve into how these ideas and others can be tested using current and future observatories, particularly high-resolution spatially-resolved X-ray spectroscopy such as that envisioned for the Lynx X-ray Observatory.

Monday, August 9, 2021

12:00 p.m. PST

Zoom link: <https://uvic.zoom.us/j/86420210010>