



# PHYSICS AND ASTRONOMY SEMINAR

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### “Feedback by AGN Jets from 3D Simulations”

#### Abstract

Mechanical feedback from AGN jets is a key process in galaxy clusters: not only the jets carve the large and numerous pairs of cavities we observe in the x-ray gas, but they are also thought to balance radiative cooling at the center of cool core clusters, which would otherwise undergo very high levels of star formation (which are not observed). On galactic scales, jet feedback can also affect directly the cold/warm gas in the Interstellar Medium, potentially changing significantly the star formation of the host galaxy.

I will present the results of recent 3D numerical simulations interacting with the hot gaseous halos of galaxy clusters, discuss the energetics of the system and show synthetic x-ray observations (images and spectra) which allow us to compare the properties of the simulated cavities with the observed ones. Furthermore, I will show the results of simulations of AGN jets in galactic environments, and discuss the implications for the cold gas content and the star formation of the host.

Thursday, October 27, 2016

10:00 a.m.

Clearihue Building

Room D125