



PHYSICS AND ASTRONOMY COLLOQUIUM

Dr. Jessica Werk

University of Washington, Seattle

“Circumgalactic Matter Matters”

Abstract

The circumgalactic medium (CGM; non-ISM gas within a galaxy virial radius) regulates the gas flows that shape the assembly and evolution of galaxies. Owing to vastly improved capabilities in space-based UV spectroscopy with the installation of HST/COS, observations and simulations of the CGM have emerged as the new frontier of galaxy evolution studies. In the last decade, we have learned that the CGM of Milky Way mass galaxies likely contains enough material to harbor most of the metals lost in galaxy winds and to sustain star-formation for billions of years. Remarkably, this implies that most of the heavy elements on earth cycled back and forth multiple times through the Milky Way’s own CGM before the formation of the solar system. In this talk, I will discuss new constraints we have placed on the origin and fate of this material by studying the gas kinematics, metallicity and ionization state. I will conclude by posing several unanswered questions about the CGM that will be addressed with future survey data and hydrodynamic simulations in a cosmological context.

Wednesday, September 13, 2017

2:30 p.m.

Elliott Building

Room 167