Gamma-Ray Probes of Dark Matter Substructure

The substructure content of dark matter halos is interesting because it can be affected by complex galaxy physics and dark matter particle physics. However, observing the small scale structure of dark matter is a challenge. Indirect detection of dark matter annihilation radiation in gamma rays may be the most direct method for observing small scale structure. In this talk, Dr. Campbell will outline some of mysteries regarding the small scale structure of matter, and the possible ways in which gamma rays from dark matter annihilation would probe the substructure of dark matter halos.