Dynamical Dark Matter: Phenomenological Implications

Dynamical dark matter (DDM) is an alternative framework for dark-matter physics in which the dark sector comprises an ensemble of individual constituent fields, and in which the usual requirement of dark-matter stability is replaced by a balancing between constituent lifetimes and cosmological abundances across that ensemble as a whole. In this talk, Dr. Thomas will review some of the phenomenological possibilities inherent within the DDM framework. In particular, he will discuss some of the characteristic experimental signatures, which can serve to distinguish DDM ensembles from traditional dark-matter candidates at the LHC, at the next generation of direct-detection experiments, and at cosmic-ray detectors and other astrophysical probes of decaying dark-matter.