Beyond the Standard Model with Cosmic Particle Accelerators
KEVIN TENNYSON, IAN MORGAN, TED TAO, ERIN DEPREE, St Mary’s College of Maryland — Gamma-ray bursts (GRBs) and active galactic nuclei (AGN) are among the most powerful cosmic particle accelerators and may therefore be excellent engines for producing particles beyond the standard model. We examine the physical conditions under which such collisions can occur within GRBs and AGNs. More specifically, we investigate the likelihood of producing the least massive Kaluza-Klein particle in these astrophysical systems as well as the potential associated observational signatures.