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Dark Matter Content in Q-Cosmology and Its Detectability in Anisotropy of Cosmic Gamma-Ray Spectra PHUONGMAI TRUONG, BHASKAR DUTTA, SHELDON CAMPBELL, ABRAM KRISLOCK, Texas A&M University — Dissipative Liouville cosmology (Q-Cosmology) introduces the effect of the dilaton field and central charge deficit on relic density of cold dark matter (CDM). The result is a reduction factor of 10 of the relic density, as compared to the value obtained in ordinary cosmology (Lahanas et al, 2007). Since dark matter particles are weakly interacting, annihilation can only occur in regions with high density, such as dark matter halos. Previous works on the anisotropy of the cosmic gamma-ray background (CGB) have shown that dark matter annihilation can be separated from the known background in the anisotropy data (Endo, Komatsu, 2007). In this talk, we first explain the dark matter content of the universe in Q-Cosmology and then study the detectability of this new model in the anisotropy of the cosmic gammy-ray spectra.

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