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## Strong Optimized Conservative DM Constraints from Fermi-LAT Inclusive Spectrum

*Monday 4 May 2015 15:15 (15 minutes)*

The Fermi  $\gamma$ -ray Space Telescope has observed the sky since 2008. Dark matter annihilations or decays contribute to the measured diffuse  $\gamma$ -ray background flux. Using simulated data to first find the “optimal” regions of interest in the  $\gamma$ -ray sky, we present conservative bounds on annihilation cross section or decay lifetime competitive with other existing limits. We consider DM annihilation/decay into 10 different SM & BSM final states, 4 DM density profiles, and  $2 \text{ GeV} < m_{DM} < 10 \text{ TeV}$ , performing no astrophysical foreground modeling. (ArXiv: 1503.07169)

**Authors:** Dr ALBERT, Andrea (KIPAC - SLAC); MASSARI, Andrea (Stony Brook University); IZAGUIRRE, Eder (urn:Google); Prof. BLOOM, Elliott (KIPAC-SLAC, Stanford University); GOMEZ-VARGAS, German (Pontifical Catholic University of Chile); ESSIG, Rouven (S)

**Presenter:** MASSARI, Andrea (Stony Brook University)

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