

Abstract Submitted  
for the APR09 Meeting of  
The American Physical Society

**The Search for Dark Matter in the Milky Way Halo with Fermi-LAT** ROBERT JOHNSON<sup>1</sup>, U.C. Santa Cruz — The Fermi Gamma-ray Space Telescope (FGST) successfully launched June 11th, 2008. Its improved sensitivity and spectral coverage compared to its predecessor, EGRET, offers the opportunity to search for new physics with photon energies up to about 300 GeV, giving access to a scale where Weakly Interacting Massive Particles (WIMPs) masses have yet to be ruled out. We present a method for the indirect detection of Weakly Interacting Massive Particles (WIMPs) through annihilation into gamma rays in the Milky Way halo, by fitting the FGST data to a combination of models for galactic diffuse emission and dark matter annihilation. We present our current sensitivity for this search, discuss systematic issues, including uncertainties in the diffuse emission model, and explore prospects for the future.

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Date submitted: 09 Jan 2009

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