

Abstract Submitted
for the APR09 Meeting of
The American Physical Society

The Search for Dark Matter Galactic Satellites with Fermi-LAT¹
PING WANG, ELLIOTT BLOOM, KIPAC-SLAC, Stanford University, REPRESENTING THE FERMI-LAT COLLABORATION — LCDM model computer simulations predict a large number of as yet unobserved dark matter (DM) galactic satellites (DM-GS) in our galaxy. Our work assumes that a significant component of DM is a Weakly Interacting Massive Particle (WIMP) in the 100 GeV mass range. The annihilation or decay of WIMPs results in many high energy gamma rays that can be well measured by the Fermi Large Area Space Telescope (Fermi-LAT). The WIMP produced spectrum from the putative DM-GS are considerably harder than most astrophysical sources, are not power laws, there are no counterparts, and the emission has no time variability. This talk will focus on the blind analysis we plan to perform on about 1 year of Fermi-LAT data in our search for DM-GS, which has been developed using the first 2 months of Fermi-LAT data and Monte Carlo simulations. Preliminary limits from this analysis using the first 2 months of Fermi-LAT data will be also discussed.

¹Work supported by DoE contract DE-AC03-76SF00515

Ping Wang
KIPAC-SLAC, Stanford University

Date submitted: 08 Jan 2009

Electronic form version 1.4