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Overview of Dark Matter Searches with Fermi-LAT¹ SIMONA MURGIA, KIPAC-SLAC, Stanford University, REPRESENTING THE FERMI-LAT COLLABORATION — The Fermi Large Area Telescope (LAT) has been successfully launched from Cape Canaveral on 11 June 2008. It is exploring the gamma ray sky in the energy range between 20 MeV and 300 GeV with unprecedented sensitivity. One of the most exciting science questions that the Fermi LAT will address is the nature of dark matter. Several theoretical models have been proposed that predict the existence of Weakly Interacting Massive Particles (WIMPs) that are excellent dark matter candidates. The Fermi LAT will investigate the existence of WIMPs primarily through their annihilation or decay into photons and into electrons. I will present an overview of the dark matter search strategy with the LAT and summarize the current status of the searches.

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