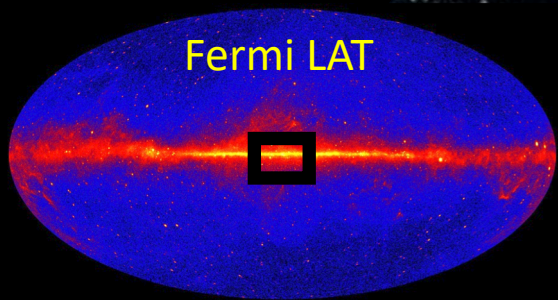


Gamma-ray Interstellar Models in the inner Galaxy

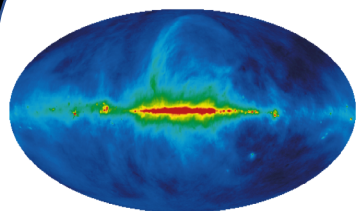


Cosmic rays



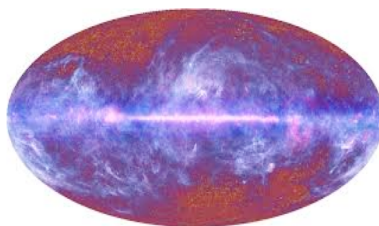
PROBLEM:
large-scale
interstellar
model
uncertainties

OUR SOLUTION:



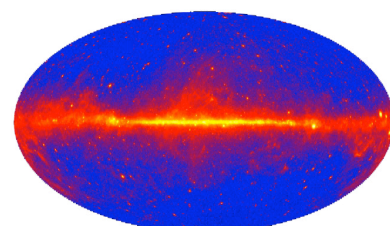
Radio Surveys

+



Microwaves

+



Gamma Rays

+



Cosmic Rays Measurements

+

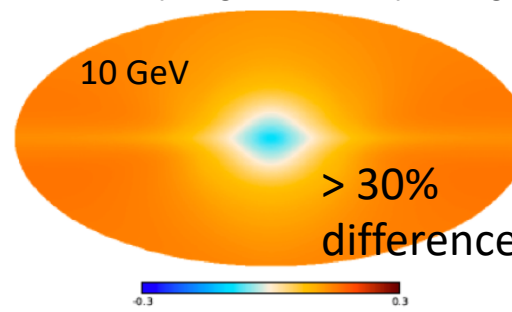
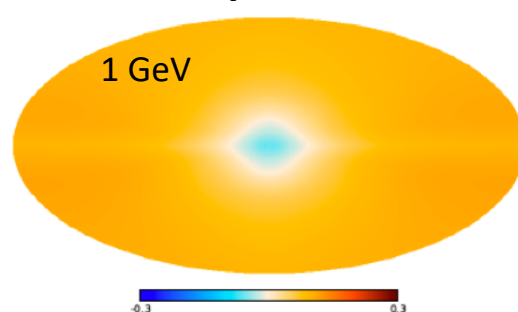
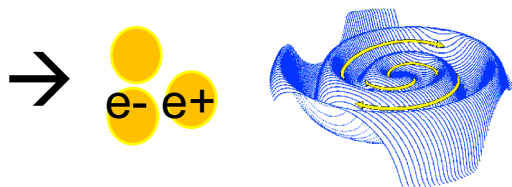


Our Cosmic-Ray
Propagation Models



SELECTED RESULTS:

Inverse Compton Gamma Residuals ($IC_{OLD} - IC_{NEW}$) / IC_{OLD}



> 30%
difference



More details:

Orlando & Strong (2013) MNRAS 436, 2127
Orlando (2018) MNRAS 475, 2724
Orlando (2019) Phys.Rev.D 99, 043007

Updated Magnetic Fields models produces brighter IC in the inner Galaxy than predicted by standard models used for Fermi LAT analyses