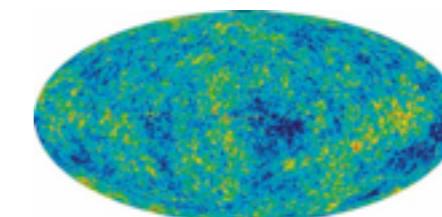
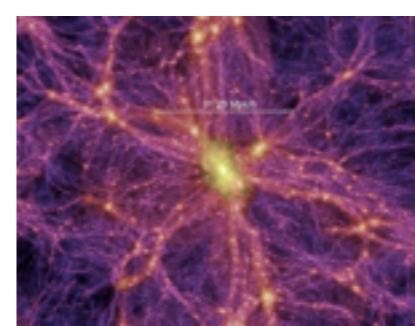


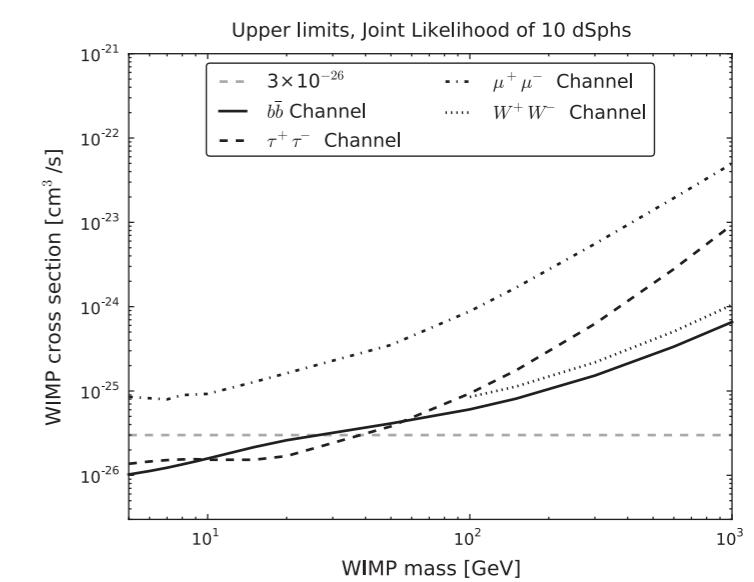
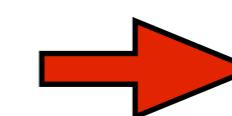
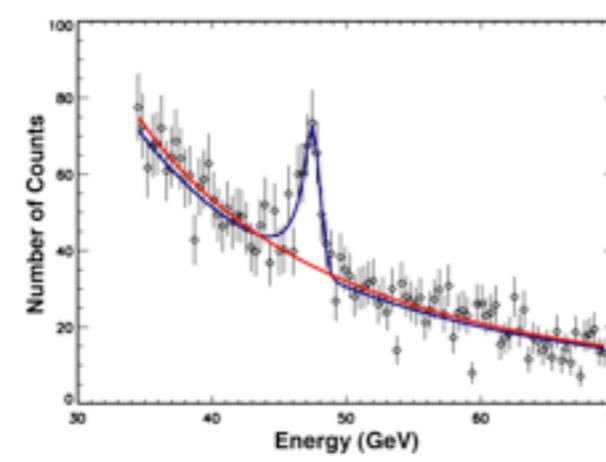
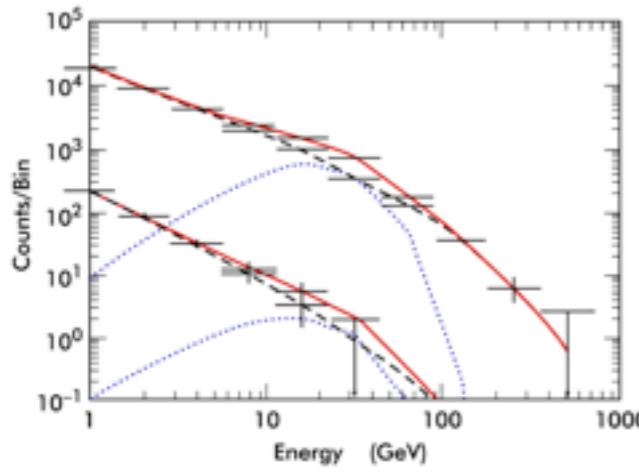
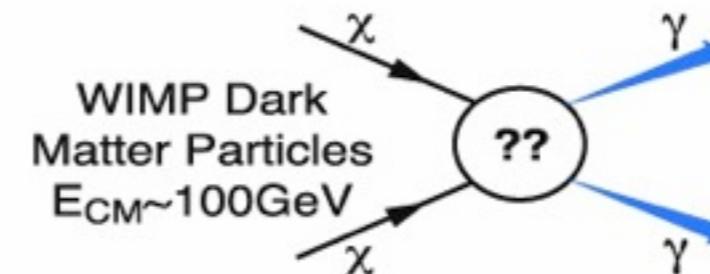
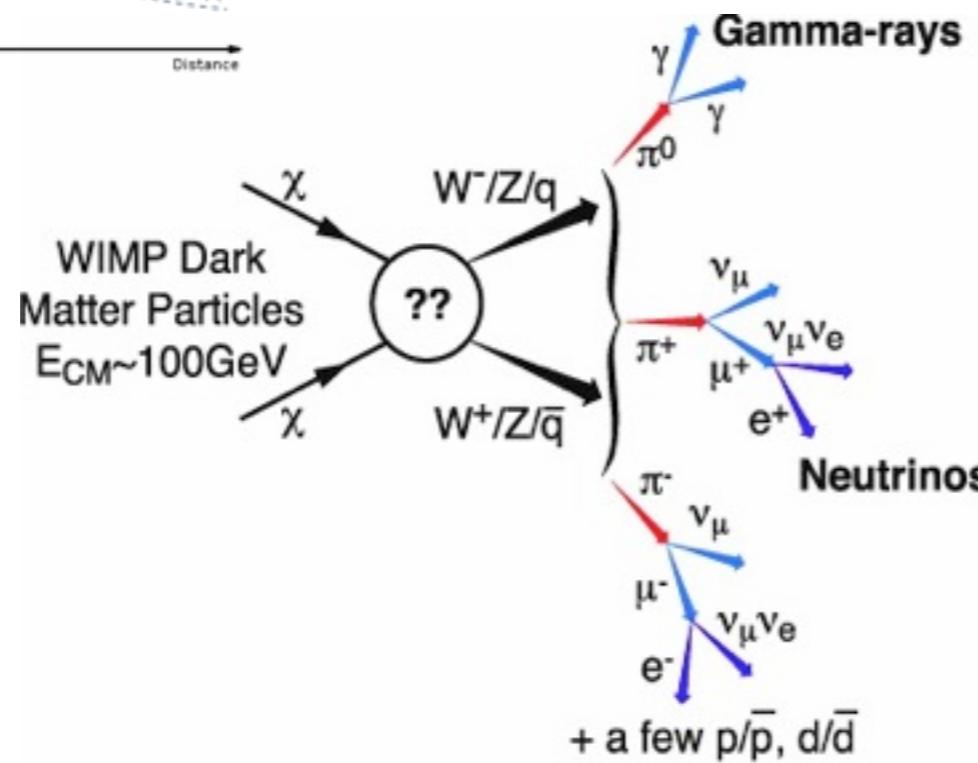
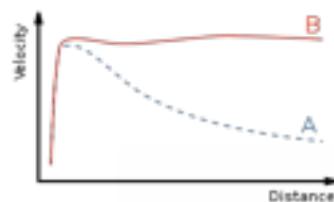
Christopher Anelli

Indirect Dark Matter Searches



→
Scale

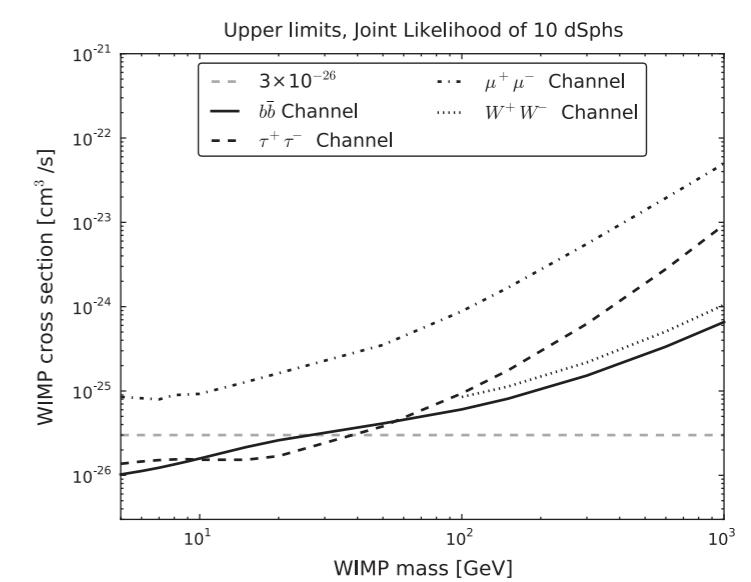
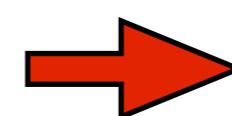
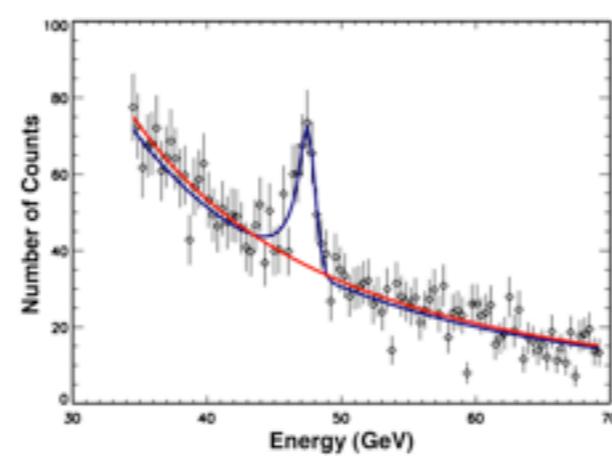
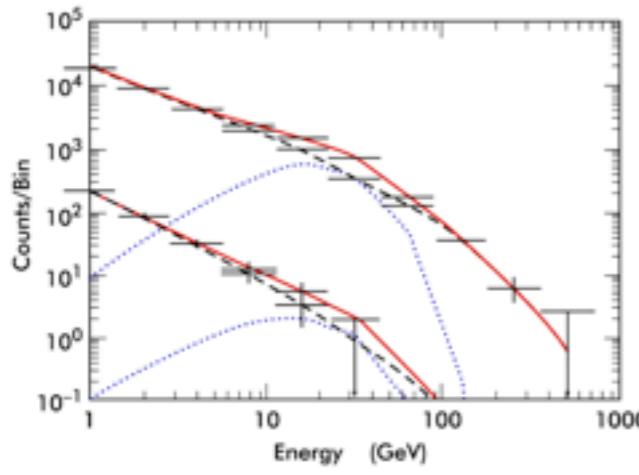
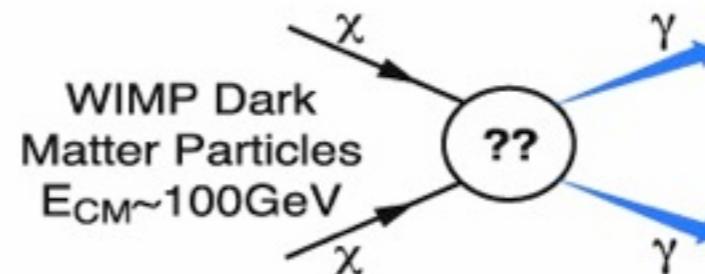
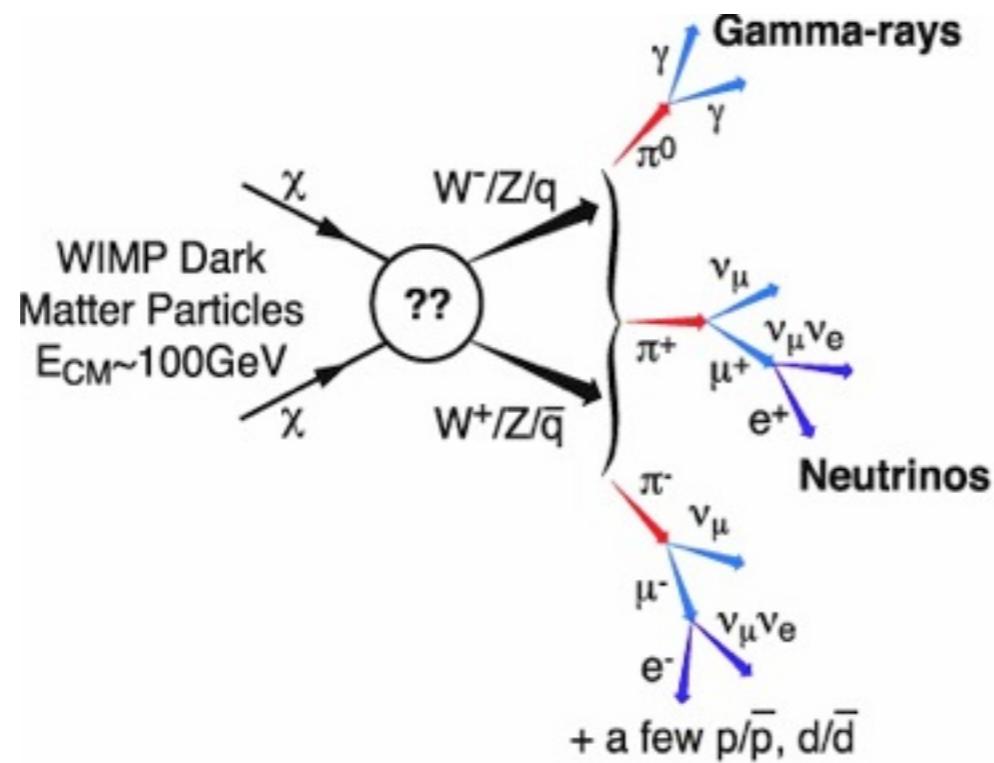
←
Time



Indirect Dark Matter Searches

WIMP Miracle

$$\langle \sigma v \rangle = 3 \cdot 10^{-26} \text{ cm}^3/\text{s}$$



Where to Look

$$\Phi(E, \psi) = \frac{\sigma(E) v}{4\pi} \sum_f \frac{dN_f}{dE} B_f \int_{l.o.s} dl(\psi) \frac{\rho(l)^2}{m_\chi^2}$$

- Enhancement from Potential Well - Amplifies density, velocity, and even potentially cross-section.
- Places to look
 - Center of the Galaxy, Dwarf Satellite Galaxies (dSphs), Within the Sun or Earth, Black Holes
 - My work has been developing simulations of how dm particles will behave in a gravitational well.
 - Future step is to add the particle physics, and calculate the expected gamma ray signal.