

## **COSMIC RAY-INDUCED HIGH ENERGY GAMMA-RAY EMISSION: A BACKGROUND FOR**

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The recent discovery of a diffuse galactic halo in GeV gamma-rays has led to several possible dark matter explanations. An important consideration for these models is the uncertainty in the galactic diffuse gamma-ray background. For example, the predicted inverse Compton signal can vary significantly depending on the choice of cosmic ray halo size, or even on the electron injection spectral index. Using a self-consistent propagation model we calculate the galactic distribution of cosmic ray electrons and positrons. Diffuse gamma-ray spectra are obtained using the results of the propagation calculations. We show our results for different propagation model parameters and electron injection spectral indices.