

Abstract Submitted
for the 4CF07 Meeting of
The American Physical Society

Neutrino and Gamma Ray Flux Expectations from HiRes Monocular Fits OLGA BRUSOVA, University of Utah, DOUGLAS R. BERGMAN, Rutgers University, KAI MARTENS, University of Utah, HIRES COLLABORATION — A simple model of a homogeneous population of cosmic accelerators injecting protons following a unique power law has long been shown to fit the HiRes monocular data very well. The model evolves the sources with redshift and adjusts both the redshift evolution and the exponent in the injecting power law to fit the data. At lower energies galactic iron is added in as suggested by composition measurements. The model includes interactions between cosmic ray protons of extragalactic origin and photons of the cosmic microwave background radiation; in particular pion production, which causes the GZK cutoff. We present neutrino and gamma ray fluxes derived from proton propagation given the fitted injection spectrum and redshift evolution of their extragalactic sources.

Olga Brusova
University of Utah

Date submitted: 12 Sep 2007

Electronic form version 1.4