

Abstract Submitted  
for the APR13 Meeting of  
The American Physical Society

**Estimation of systematic errors in UHE CR energy reconstruction for ANITA-3 experiment**<sup>1</sup> VIATCHESLAV BUGAEV, BRIAN RAUCH, ROBERT BINNS, MARTIN ISRAEL, Department of Physics and McDonnell Center for the Space Sciences, Washington University in St. Louis, KONSTANTIN BELOV, STEPHANIE WISSEL, UCLA, ANDRES ROMERO-WOLF, NASA/JPL, FOR THE ANITA COLLABORATION — The third mission of the balloon-borne ANtarctic Impulsive Transient Antenna (ANITA-3) scheduled for December 2013 will be optimized for the measurement of impulsive radio signals from Ultra-High Energy Cosmic Rays (UHE CR), i.e. charged particles with energies above  $10^{19}$  eV, in addition to the neutrinos ANITA was originally designed for. The event reconstruction algorithm for UHE CR relies on the detection of radio emissions in the frequency range 200-1200 MHz (RF) produced by the charged component of Extensive Air Showers initiated by these particles. The UHE CR energy reconstruction method for ANITA is subject to systematic uncertainties introduced by models used in Monte Carlo simulations of RF. The presented study is aimed at evaluating these systematic uncertainties by comparing outputs of two RF simulation codes, CoREAS and ZHAireS, for different event statistics and propagating the differences in the outputs through the energy reconstruction method.

<sup>1</sup>This research was supported by NASA under Grant Number NNX11AC49G.

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Date submitted: 11 Jan 2013

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