Abstract Submitted
for the APR14 Meeting of
The American Physical Society

Ice surface roughness modeling for effect on radio signals from UHE particle showers JESSICA STOCKHAM, University of Kansas, ANITA COLLABORATION[1] — For radio antenna detectors located in or above the Antarctic ice sheet, the reconstruction of both ultra-high energy (UHE) neutrino and cosmic ray air shower events requires understanding the transmission and reflection properties of the air-ice interface. To this end, surface and volume scattering from granular materials in the microwave frequency range are measured and stereoscopic images of the ice surface, obtained by the Antarctric Geophysics Along the Vostok Expedition (AGAVE), are used to determine the 3D surface structure. This data is implemented to determine an appropriate model for use in simulation and data analysis of the shower events.

[1]ANtarctic Impulsive Transient Antenna

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Date submitted: 10 Jan 2014 Electronic form version 1.4