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Antarctic surface roughness effects on radio pulse propagation KAMLESH DOOKAYKA, University of California, Irvine — Rough surface features on the Antarctic continent that are commensurate with radio wavelengths can affect transmission of such waves. This is especially more pronounced for incidence near the critical angle. We simulate such behavior for radio pulses propagating through Antarctic ice and analyze time-domain effects due to various surface roughness. These have ramifications for detectability by the ANITA neutrino experiment which detects radio Cerenkov emission from within the Antarctic ice sheet.

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