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Monopole Detection with the ANITA Experiment MILES DETRIXHE, University of Kansas, ANITA COLLABORATION — The ANITA Experiment seeks detection of highly energetic particles traversing the Antarctic ice based on radio waves produced by Cherenkov radiation. The ANITA Experiment was aloft for 35 days in December 2006 and January 2007 while operating with an average duty cycle of approximately 50%, resulting in the most sensitive experiment to date to the diffuse flux of highly energetic ionizing particles. We discuss the experimental signature that would be produced by an ultra-relativistic magnetic monopole interacting with the Antarctic ice as measured by ANITA and the method for calculating the maximum flux of these particles.

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