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Cosmic ray boosted dark matter at PROSPECTtheory and propagation CHRISTOPHER CAPPIELLO, Ohio State Univ - Columbus, MANOA ANDRIAMIRADO, BRYCE LITTLEJOHN, Illinois Institute of Technology — Despite the ever-increasing sensitivity of direct detection experiments to GeV-scale dark matter, these experiments rapidly lose sensitivity if dark matter is too light. However, if light dark matter can be accelerated to high kinetic energy, it could be detected by direct detection or even neutrino experiments, despite its low mass. One possible acceleration mechanism is the collision of dark matter with cosmic rays. We present the results of a search for cosmic ray boosted dark matter at the PROSPECT reactor antineutrino experiment, setting bounds on strongly interacting, sub-GeV dark matter.

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