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Alissa Monte (UMass Amherst): Analysis of Alpha Events in DarkSide-50

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DarkSide-50 is the current phase of the DarkSide direct dark matter search program, operating underground at the Laboratori Nazionali del Gran Sasso in Italy. The
detector is a dual-phase argon Time Projection Chamber (TPC), designed for direct detection of Weakly Interacting Massive Particles, and housed within an active veto
system of liquid scintillator and water Cherenkov detectors. Since switching to a target of low radioactivity argon extracted from underground sources in April, 2015, the background is no longer dominated by naturally occurring Ar. However, alpha backgrounds from radon and its daughters remain, both from the liquid argon bulk and internal detector surfaces. I will present an analysis of alpha populations in the DarkSide-50 TPC, focusing on events from the uranium chain.

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