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The LUX Experiment - Background Model and Physics Goals
DAVID MALLING, LUX, LUX COLLABORATION — The LUX experiment takes advantage of the self-shielding capabilities of liquid xenon to create a nearly background-free fiducial volume. This will allow for unambiguous detection of WIMP-like nuclear recoils. LUX has been designed with the goal of $<10^{-3}$ event/keV/kg/day, corresponding to <1 background event in 300 livedays, and a virtually background-free month-long initial science run. The ultimate 90% exclusion WIMP limit of the experiment after a 30000 kg day run is projected to reach 7×10^{-46} cm^2 for a WIMP mass of 100 GeV. This talk will discuss recent results from the LUX underground xenon gas run and background projections from the LUX material screening program.

David Malling
LUX

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