

Abstract Submitted  
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**The Low-Energy Background in XENON1T** FEI GAO, Columbia University, ALEC STEIN, Univ of California - Los Angeles, XENON1T COLLABORATION — The XENON1T dark matter direct-detection experiment looks for hypothetical Weakly Interacting Massive Particles (WIMPs). WIMPs are expected to scatter off xenon nuclei at low energies, so understanding the low-energy background of the detector is crucial. In XENON1T, the background in the WIMP search region is due to radioactive decays stemming from the detector construction materials and impurities in the xenon itself. We show that our predicted low-energy background rate of  $\sim 10^{-4} \text{events} \cdot \text{kg}^{-1} \cdot \text{day}^{-1} \cdot \text{keV}^{-1}$  matches XENON1T's design goals and is in agreement with the data taken during the commissioning of the detector.

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