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The XENON Dark Matter Project

The XENON Experiment aims to detect dark matter particles by WIMPs scattering off a nucleus. It operates a dual phase time projection chamber with liquid xenon as detection material. XENON100 was the most sensitive experiment to spin-independent WIMP-nucleon interaction for WIMP masses above 8 GeV/c² from 2010 to 2012.
XENON1T is the future experiment whose aim is an increased sensitivity by a factor 100. For this a background reduction by a factor 100 compared to XENON100 is required. Highly sensitive gas analytic and screening methods have been developed in order to guarantee these low background rates of $5 \cdot 10^{-5}$ events/day/keV/kg.

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