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XLZD Sensitivity to WIMPs via the Migdal Effect

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This talk presents a projected sensitivity for the XLZD detector to Weakly Interacting Massive Particles (WIMPs) via the Migdal effect. For very light WIMPs, the nuclear recoils they induce are often below detection threshold, but the associated Migdal ionisations may still produce detectable signals. The study models the expected Migdal ionisation signal and background response under realistic detector assumptions, extending the reach of future xenon-based experiments toward lower WIMP masses.

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