

# CrystaLiZe: Dark Matter Detection and Beyond with Crystal Xenon

*Thursday 27 March 2025 08:30 (15 minutes)*

We present the crystalline xenon time projection chamber (TPC), a promising novel technology for next-generation dark matter searches. Initial tests have established that it maintains many of the benefits of the liquid xenon TPC while also effectively excluding radon, the dominant background in currently-running xenon dark matter experiments such as LZ. This offers the potential for greatly improved sensitivity to dark matter through a crystal xenon upgrade to an existing experiment. This talk will discuss signal detection properties, radon exclusion performance, and progress towards a multi-kg demonstrator designed to establish its scalability.

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**Session Classification:** SESSION 15: Direct detection: Technical Development-2 & Scientific Development