

# DPF-PHENO 2024

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## Measuring Optical Properties in Liquid Xenon with LIXO2

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Liquid xenon (LXe) detectors are used in many experiments, including the proposed searches for dark matter and neutrinoless double-beta decay, DARWIN and nEXO. LXe scintillates in vacuum ultraviolet (VUV) region, and understanding optical properties of materials and photosensors in this region is important for maximizing sensitivity of these experiments. LIXO is a setup dedicated to such measurements constructed at the University of Alabama. It has provided the first measurement of angular-resolved reflectivity and PDE of a SiPM in LXe. LIXO has been upgraded to improve measurement speed, reduce uncertainties, and allow transparency measurements in LXe. This talk will present the upgraded system, LIXO2, and report measurement results of the VUV-reflective coating that was developed to improve sensitivity of LXe experiments. Our results confirm that the coating satisfies the needs of next-generation LXe detectors. The talk will conclude by discussing future LIXO2 measurement plans.

### Mini Symposia (Invited Talks Only)

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