

## Development of a Xenon Purity Monitor

*Tuesday, 19 May 2026 18:50 (1 hour)*

Monitoring impurity levels within a noble liquid detector is essential for achieving precise energy measurements and for producing accurate detector simulations by including corrected light transport properties. PUMA (purity monitor assembly) is being developed at TRIUMF by the PIONEER group to monitor impurities in liquid xenon. PUMA can measure electronegative impurities, such as oxygen or water, which are two of the most prevalent impurities in LXe detectors and have a big impact on the attenuation of vacuum ultraviolet light. This poster will cover the function of PUMA, test results from data collected at TRIUMF, PSI and McGill, as well as the development of an improved apparatus for an absolute impurity measurement using an external source.

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