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Reflectivity measurements of VUV light at the scintillation wavelength of xenon on XENON1T/nT PTFE samples

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Rare event searches as performed with liquid xenon (LXe) detectors demand a precise knowledge of the employed materials. Measurements of optical properties at the xenon scintillation wavelength in the VUV region are required for accurate simulations and detector characterization. Reflection measurements of polytetrafluorethylen (PTFE) were conducted in vacuum, gaseous and liquid xenon using the Reflectivity Setup in Münster. PTFE is the material used to encapsulate the active volume in the LXe detectors of the XENON dark matter project. This poster will report about the reflectivity of the PTFE from the XENON detectors depending on the surrounding material and its surface treatment.

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