

Development of Hermetic Xenon Time Projection Chamber for Reducing ^{222}Rn Background

Wednesday, October 16, 2024 5:02 PM (1 minute)

In direct dark matter searches with liquid xenon, the main background is the beta decay of ^{214}Pb , the daughter nucleus of radioactive radon; in the DARWIN experiment, a future dark matter experiment using 50 tonnes of LXe, to reduce the radon background, the radon concentration in the detector 10% of XENONnT is required. This poster presentation reports on the development of a hermetically sealed detector made of quartz and PTFE using thermal shrinkage.

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Session Classification: Poster Session