

Abstract Submitted
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Design and Performance of Liquid Xenon Detectors for PET
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MARTIN, FABRICE RETIERE, ALEKSEY SHER — This work is aimed at devel-
oping liquid xenon (LXe) detectors for applications to positron emission tomography
(PET). The advantages of LXe for PET compared to currently used methods include
improved energy resolution by combining information from measuring the ioniza-
tion as well as the scintillation light, 3-D sub-mm spatial resolution, and Compton
scattering reconstruction. Results obtained for the energy resolution with a small
prototype and an analysis of error sources will be presented.

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