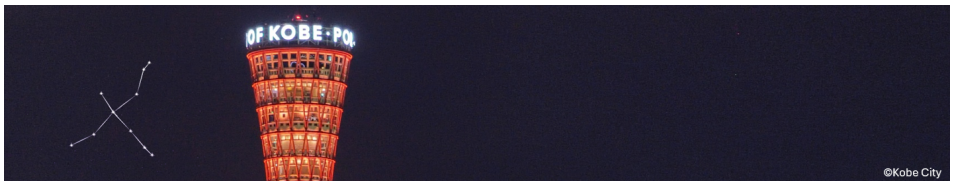

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Event Selection of Neutron Elastic Scattering for Background Reduction in Migdal Effect Searches Using a Xenon Gas TPC

Tuesday, 24 February 2026 16:23 (1 minute)

The Migdal effect associated with nuclear scattering is expected to enhance the sensitivity of direct dark matter searches. We aim to observe such events by irradiating a high-pressure Xe gas Time Projection Chamber (TPC) with neutrons. Background reduction is achieved by selecting neutron-nucleus elastic scattering events using liquid scintillators. In this poster, we report the analysis of data acquired during a beam test in December 2025, as well as estimates of nuclear elastic scattering and background events.

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Session Classification: Poster session