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DAX: A Versatile Testbed for Xenon Detector R&D JACOB CUTTER, University of California, Davis — The DAX (DAvis Xenon) system serves as a test bed for liquid-xenon (LXe) detector research and development, particularly in the context of future dark matter direct detection searches. A number of important technologies are being tested in this system, including an active liquid-purity monitor, silicon photomultiplier sensors, wavelength shifters, and a direct measurement of the scintillation and ionization response of LXe to low-energy Pb-206 recoils. The last item is important because Pb-206 is a decay product of Po-210, which is a prominent surface background resulting from radon plate-out, and its behavior in LXe is poorly understood. I discuss the motivation and design of this system, along with the current status and recent results of its goals.

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