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## Development and Testing of LZ's High Voltage Grids

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To observe signals from low-energy nuclear recoils, including WIMP-xenon scatters, the LZ dark matter detector must maintain strong drift and extraction fields within its dual-phase xenon time projection chamber (TPC). This will be accomplished with a set of four high-voltage grids made of stainless steel wire mesh that are placed at various heights in the TPC. Reaching and holding the grids' design voltages is a prerequisite to LZ's main WIMP search. In addition, limiting spurious electron emission background from the grid wires enables probes of lower-mass dark matter via an ionization-only search. To achieve both of these goals, a grid production program has been set up in parallel with a high-voltage testing program at SLAC. This talk will present the LZ grid production process, outlining the design drivers and the technical challenges faced in building LZ-scale electrodes as well as insights gained from high-voltage testing of both small prototype grids and LZ's full-scale grids.

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