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Trajectory-Based 2D Mesh Scanning in Sardana Using IcePAP Controllers

We present a novel application of Sardana's existing meshct macro, adapted to perform continuous 2D mesh scans using parametric trajectories executed by IcePAP motor controllers. This approach improves scan speed and uniformity by driving two coordinated axes along a predefined trajectory, controlled by a dedicated trajectory motor. One of the main challenges lies in generating, loading, and orchestrating the trajectory motor, especially when its associated physical motors are assigned dynamically at runtime. This complexity requires careful configuration to ensure consistency between the trajectory description and motor behavior. We invite the community to discuss these limitations, share experiences, and explore ideas for improving the integration of trajectory-based scanning in Sardana.

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