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The Detector Microfabrication Facility at SLAC for quantum and superconducting sensors

Tuesday, 7 November 2023 19:40 (20 minutes)

We present plans for SLAC's Detector Microfabrication Facility (DMF), a dedicated 5,500 sq. ft. foundry for the R&D and at-scale production of quantum and superconducting sensors and devices with high purity, complexity, yield, and reproducibility. In addition to a specialized toolset on 150mm wafers, the DMF also includes necessary capabilities for post-fabrication metrology, room-temperature and cryogenic characterization, as well as validation of functionality and performance of devices produced at the DMF. The facility is envisioned to support DOE mission science by enabling collaborative research across universities, labs and industry in quantum information science and fundamental physics. The DMF staff will commission the toolset and begin process development in 2024. We expect to invite R&D projects and science collaborations from the community to take advantage of the DMF starting 2025.

Early Career

Yes

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