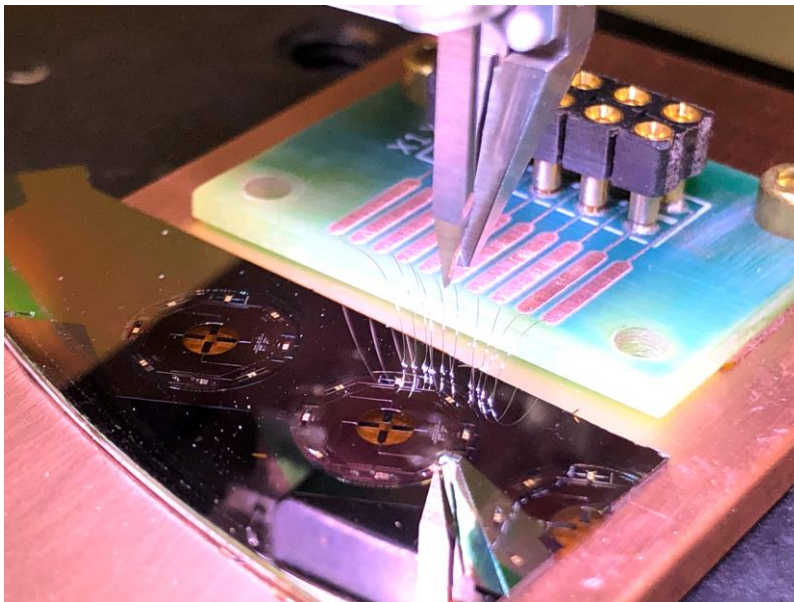
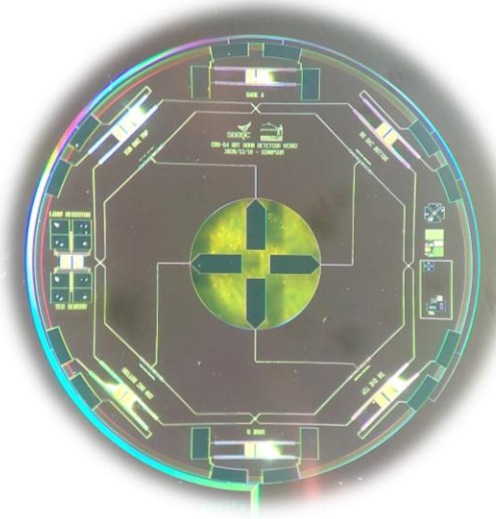
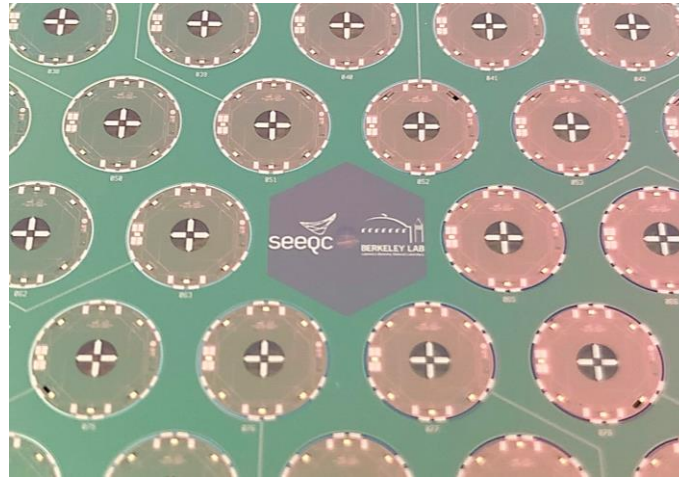
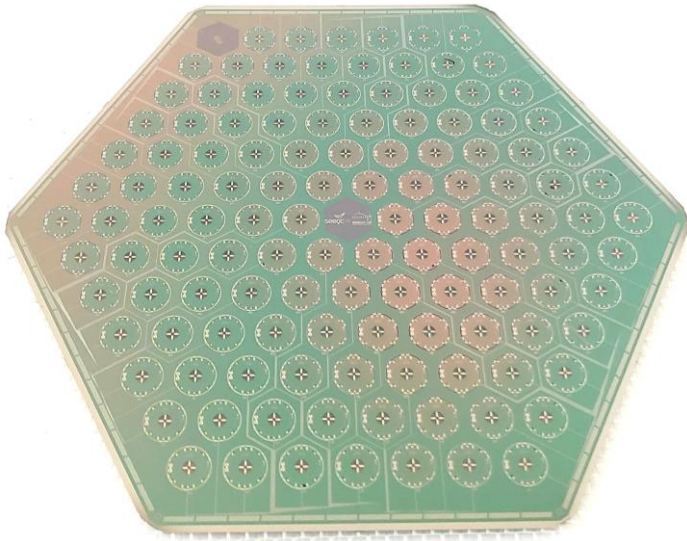


LBL-Seeqc CDFG Wafer Update

Aritoki Suzuki
Lawrence Berkeley National Laboratory
April 28 2021



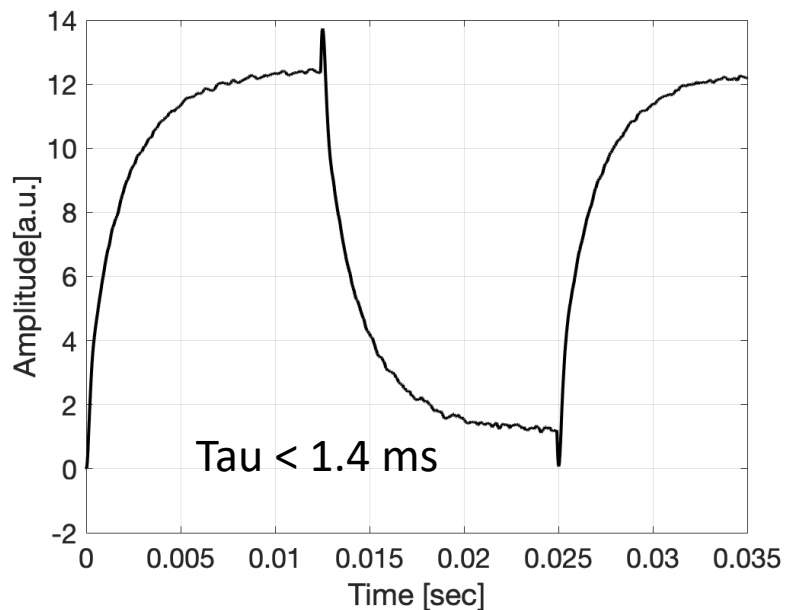
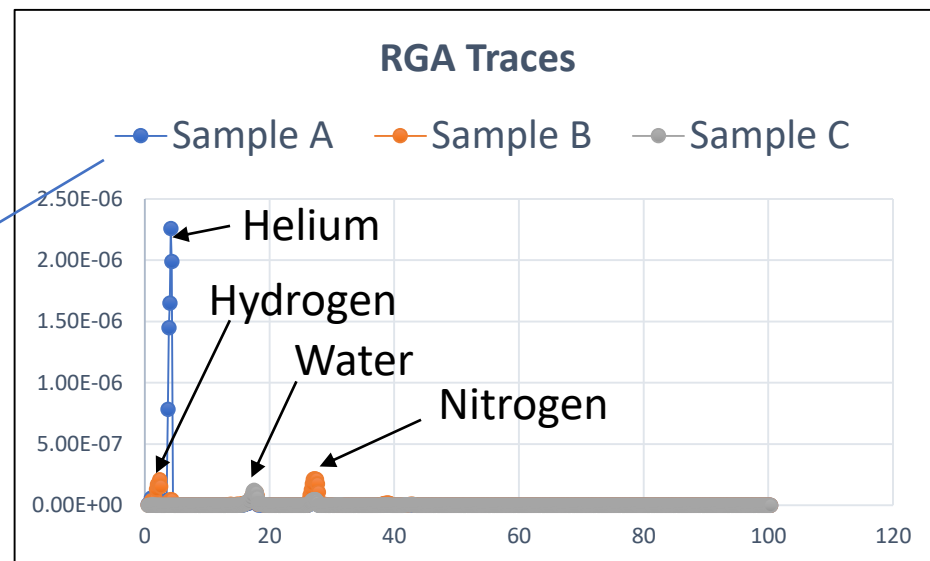
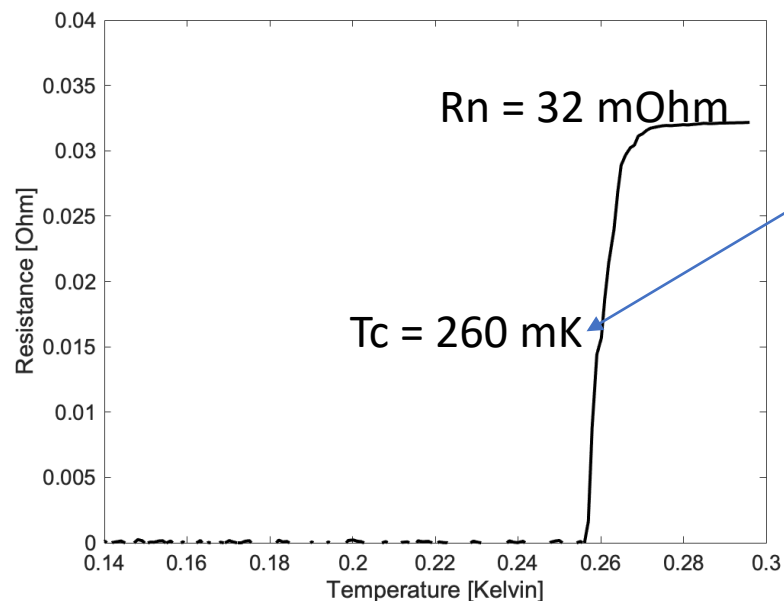
CDFG Wafer



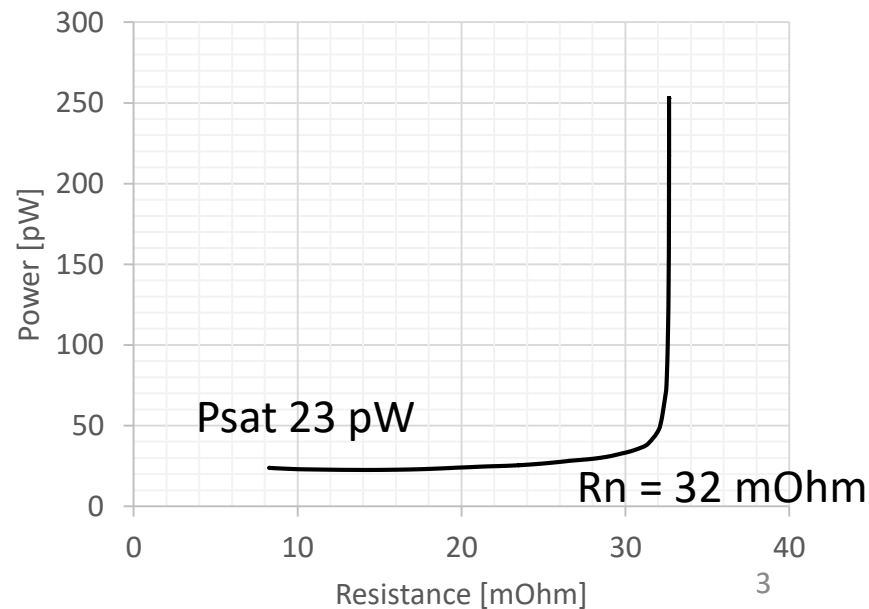
LBL-Seeqc status

- Fabrication of 1 single Tc CDFG wafer completed
- Fabrication of 2 dual Tc CDFG wafers completed
- Tested witness pixel from single Tc CDFG wafer at LBNL DR with DC SQUID readout
- Detector array holder fabricated

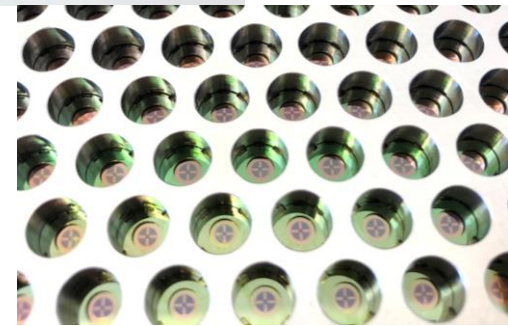
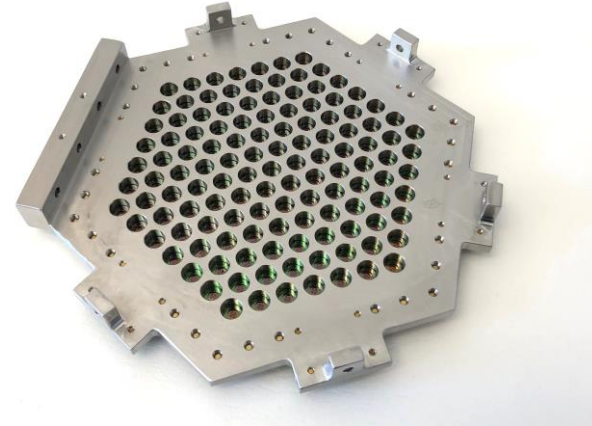
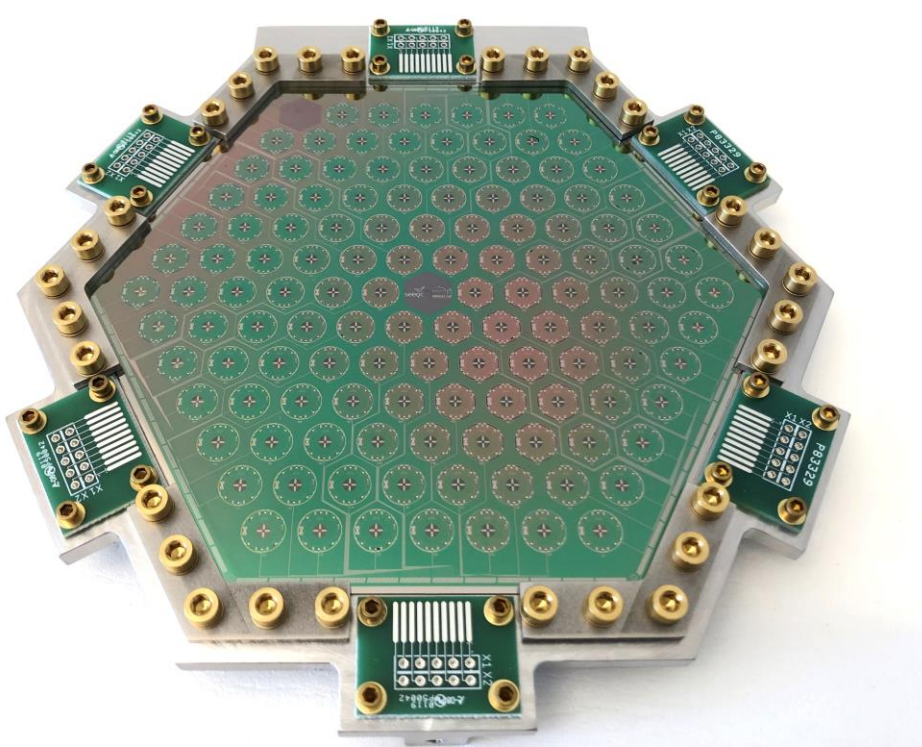
Witness Pixels from Single Tc CDFG Wafer



Tracked down T_c offset to cryopump regen

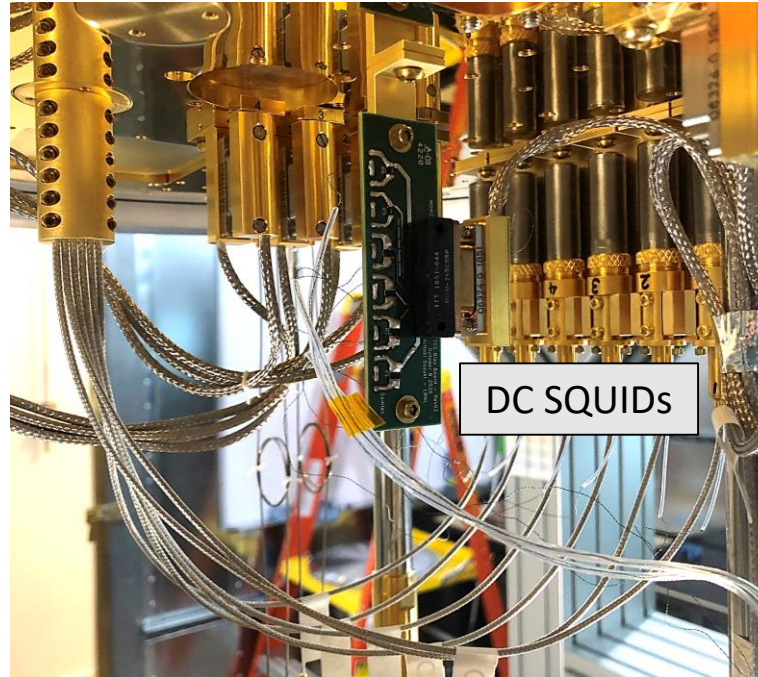
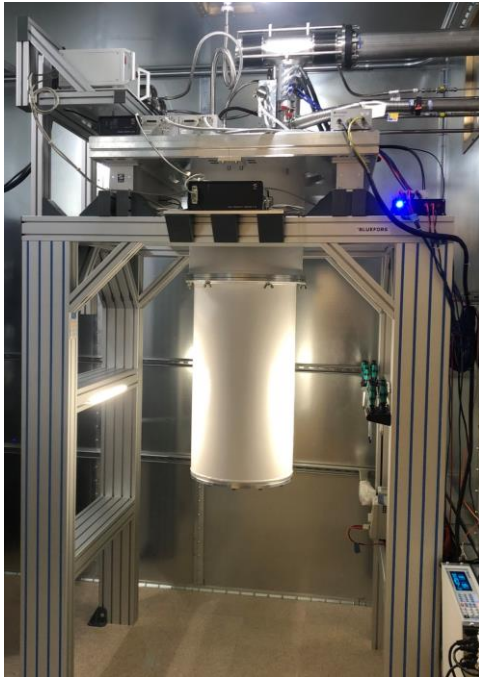


Detector Array Holder for DC SQUID Test



- Invar holder. Screw holes
- Very simple PCBs surrounds the wafer to wire bond to detector array
→ Connect to DC SQUID readout
- Vent hold in back to protect membranes from differential pressure

LBL DR Setup



- **LBL DR is in EM shield room**
- **DC SQUID readout system**
 - 6 channels
 - 1.5 mOhm parasitic impedance
 - Dark tests demonstrated (T_c , R_n , P_{sat} , Time constant, noise)
- **Optical setup is coming together**
 - Window & filter parts machined
 - Beam mapper, polarization rotator in hand, FTS from UCSD