COUPP-2L at SNOLAB
Bubble Chamber Dark Matter Search

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Installation and calibration runs

- Demonstrated safe remote operation
- Selected run conditions
- Fixed
  - Pinhole air leak.
  - Compressed air supply manifold
  - Glycol leak, 2mL/day
Backgrounds

- Unexpected neutron background
- Potential gamma backgrounds
- Radon influx (alpha source)
  - Demonstrates our acoustic discrimination.
Next trip to SNOLAB

- Top up glycol.
- Assemble new triple encapsulated gamma sources
  - 100 μCi Co-60
  - 1 mCi Ba-133
Background from Acoustic Sensors

- $(\alpha,n)$ background
- Pb containing PZT piezoelectric acoustic sensors to be replaced.
Non-leaded piezos

1 MHz
Replacing piezos

- Need to soak J-B Weld in Methyl Ethyl Ketone
  - Construct MEK compatible polypropylene container
  - Use flammable and toxic solvent underground. Similar hazards to methanol.
Gamma background counting

- Opportunity to count gamma background in COUPP-4kg using NaI detector.
  - Need to count intrinsic detector background
  - Need holder for detector inside pressure vessel
  - Count the materials we are removing (mostly steel)
Science Running

- 34°C, ~14 keV threshold, 130 calendar days
- Working to characterize potential backgrounds

![Graph showing live days vs. time with Commissioning and Science Run phases highlighted.](chart.png)
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