LAr R&D Progress Report

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Lab Safety and Space Management

- **Safety reminders**
  - There are a lot of safety incident in Physics Department, please read the message from Department chair today
  - Please be careful when plug/unplug electrical devices from power outlet/strip
- **High bay ceiling lamp repair，not finished**
  - Right ballast but incompatible LED light tubes
  - The electricians will come back later
- **Planned electrical power outage Bldg 510, Cancelled**
  - Two ~10s power outage planned on last Sat at 6:30am and 11am
  - Expect in the coming weeks
- **Interests in the LN2 buggy**
  - LN2 buggy outside highbay has been put in excess process but not bering removed
  - IO colleagues expressed interest to it and are willing to take over

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260L LAr System Cryogenic Operation Status

- **It has been 68 days since the beginning of the operation**
- **No LAr loss so far**
- **The cryogenic operation is overall very smooth**
  - LN2 filling line clogged for another 2 times
  - It seems associated with 1 particular dewar
  - Empty the dewar for CE test and refilled, no clog observed so far on the same LN2 supply dewar
  - LN2 consumption increases lightly after the vacuum of the filling hose lost
    - Each dewar can barely last for 24 hrs, it was about >30 hrs at the beginning
    - Significant water condensation on the hose

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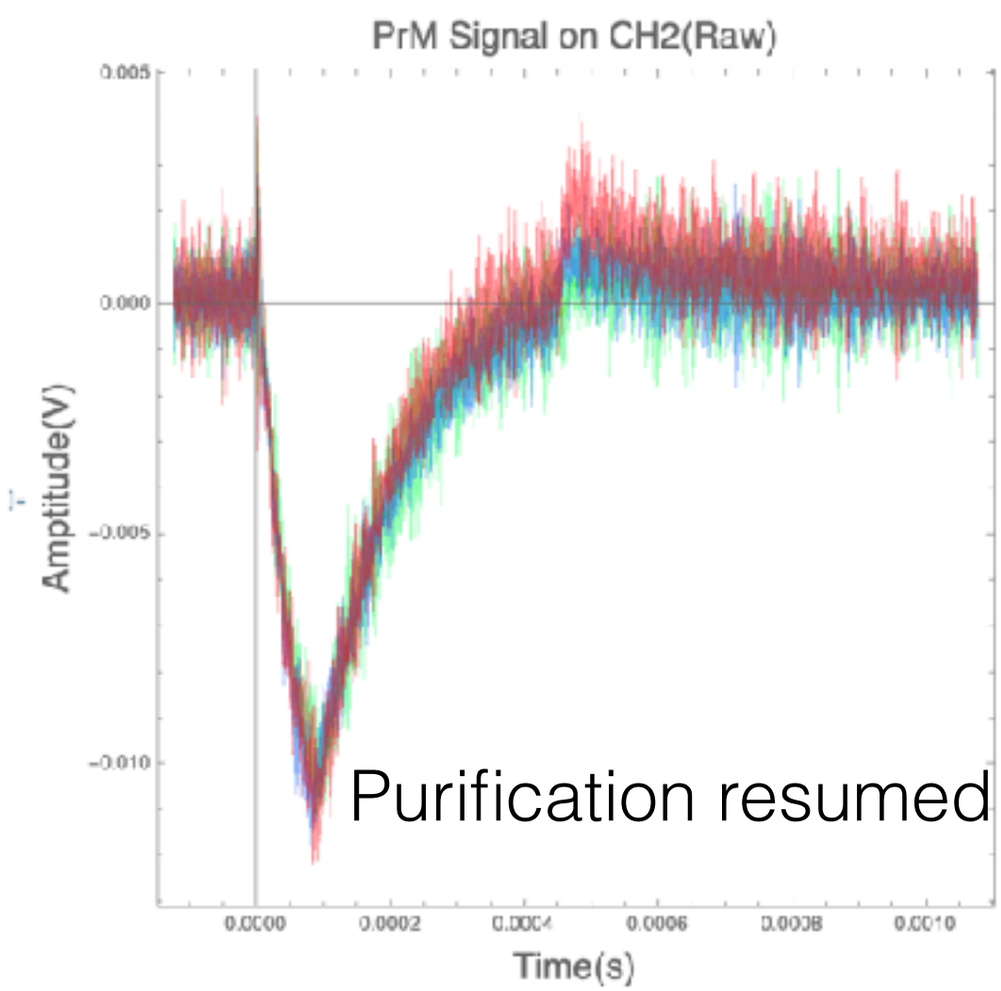
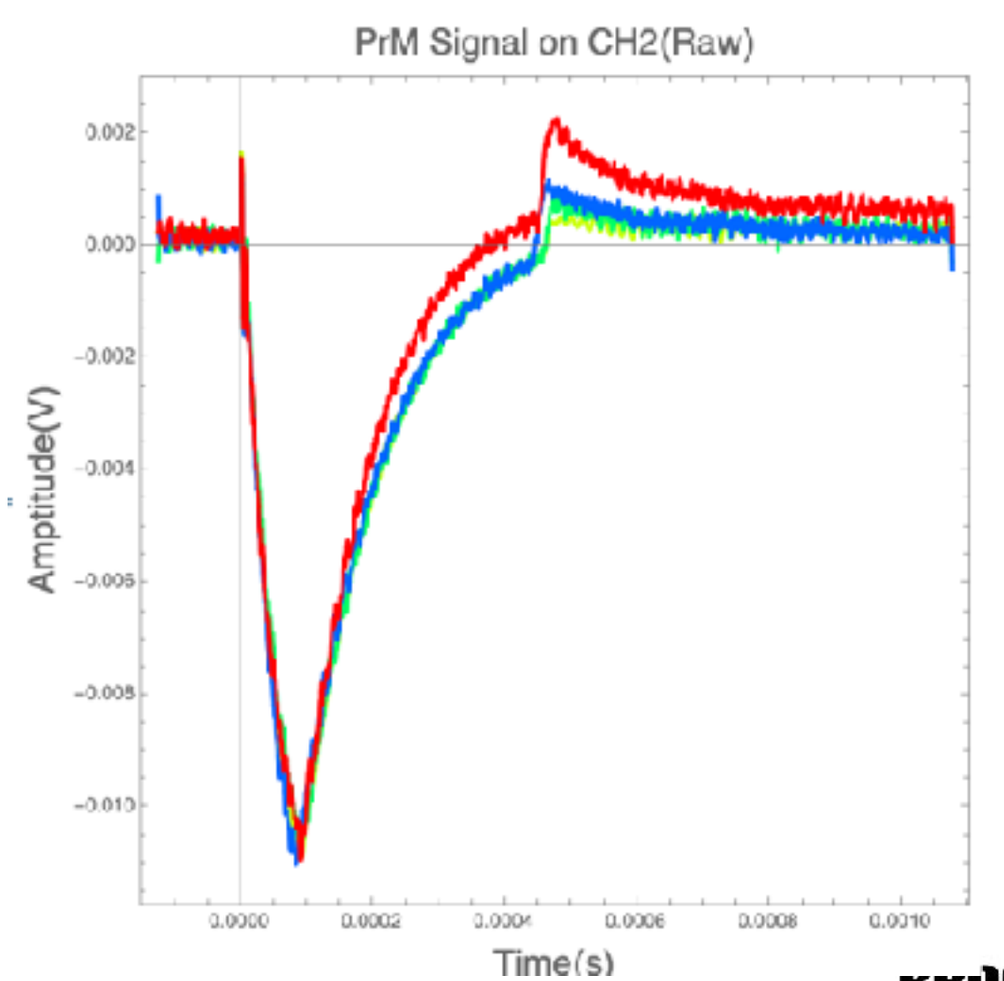
Purification resume test

- **The purification back on**
  - Given the noise has ~kHz frequency. A low pass filter applied to the noisy data showed last week
  - The electron life improvement can be observed





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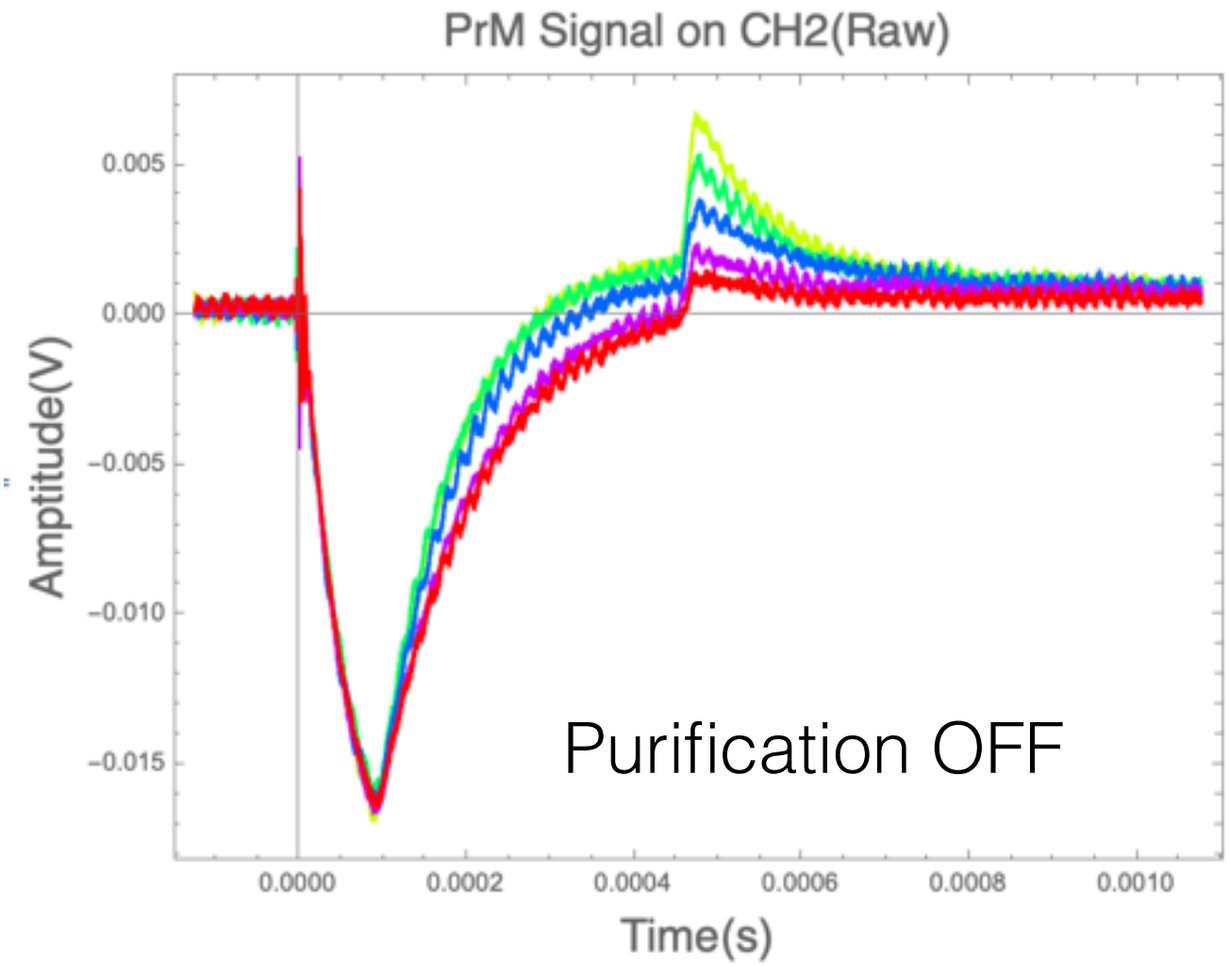
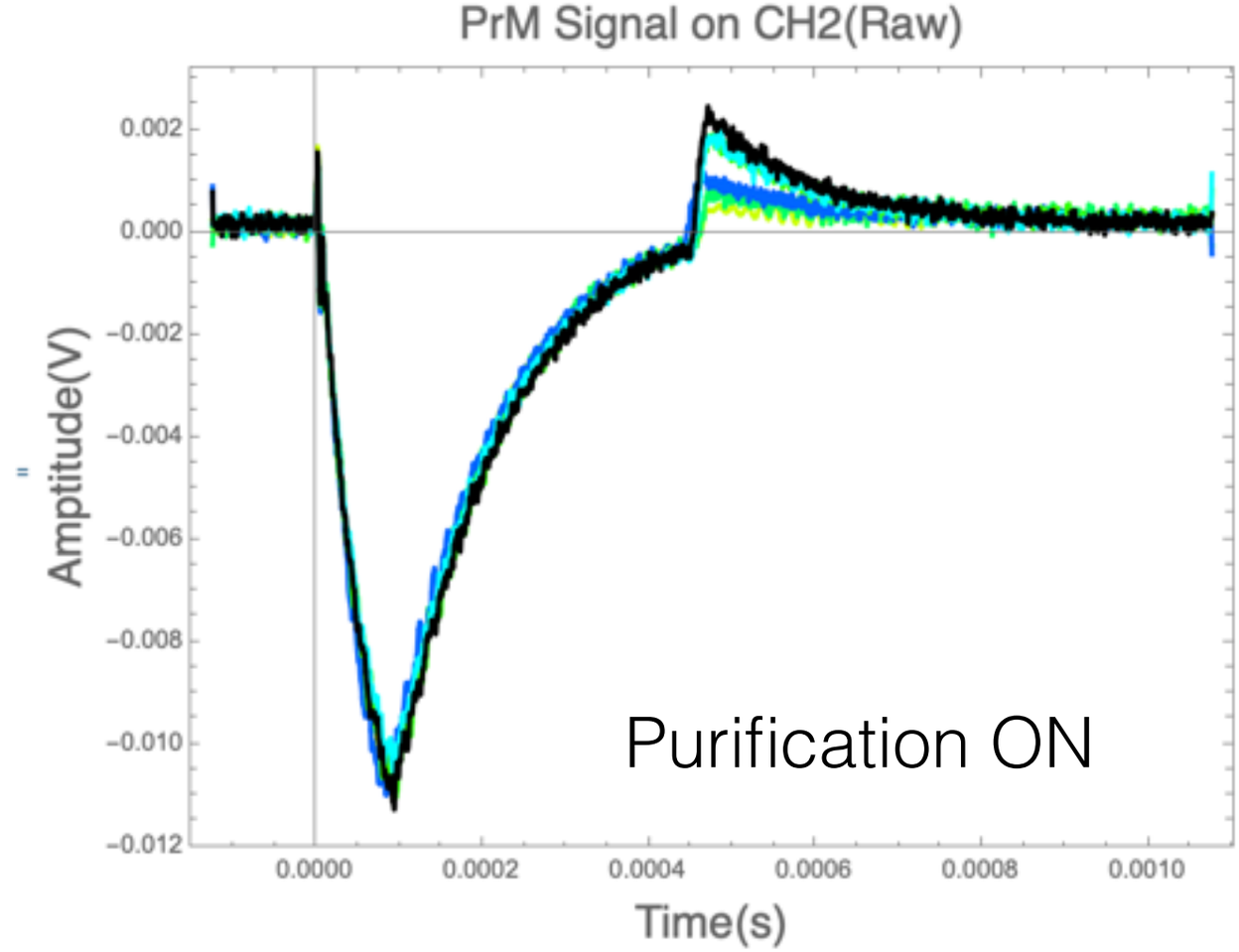
Purification resume test

- **The purification back on**
  - The electron lifetime is still improving
  - In the future, we need to accelerate the circulation
  - Tube for low power heat ~150W is with KHV for welding





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Running Plan

- Switch back to the purification OFF tomorrow, runing to Sunday, 6/16
- Sampling during to the Directly sample LAr to get the N2 concentration to confirm the system is ready for light measurement on Monday 6/17
- Warm up the system, 6/21

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