

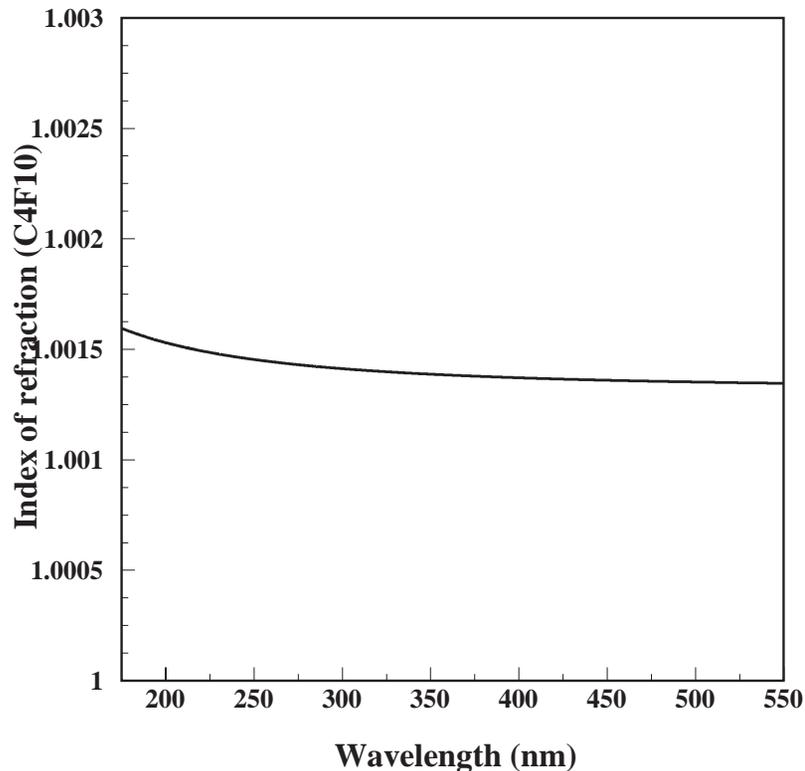
# Threshold Ckov detector status

- Progress since November:
  - Detector moved into beam line on Thursday after ziptrack completion (thanks to Leon and crew)
  - Nearly finalized and tested detector readout scheme
    - Once completed can specify needed connectors/cables.
  - Gas/gas system...
- Next goals
  - Install mirrors (needed before DC2 installation)
  - Finish developing test for PMT+base checkout
    - Check outputs with ADC
  - Progress on gas system

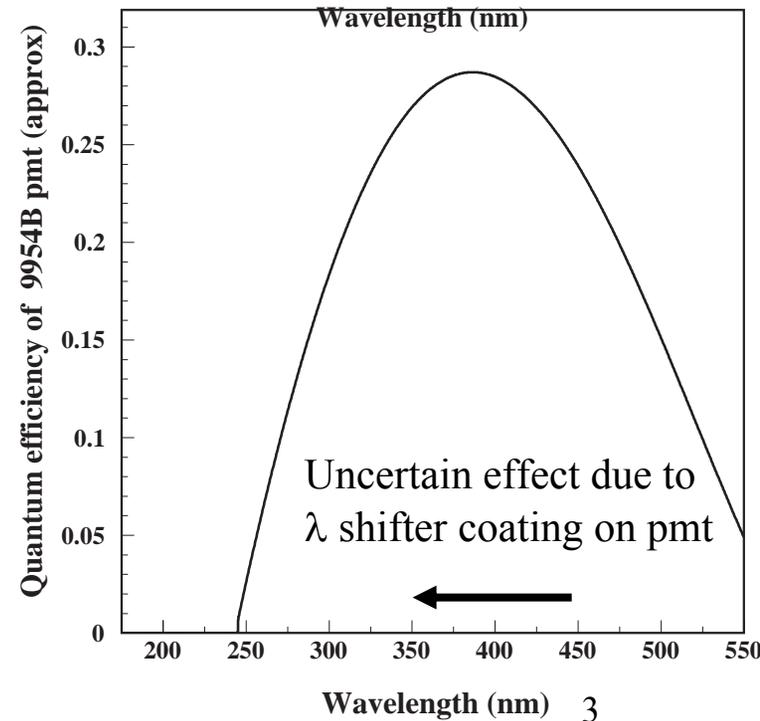
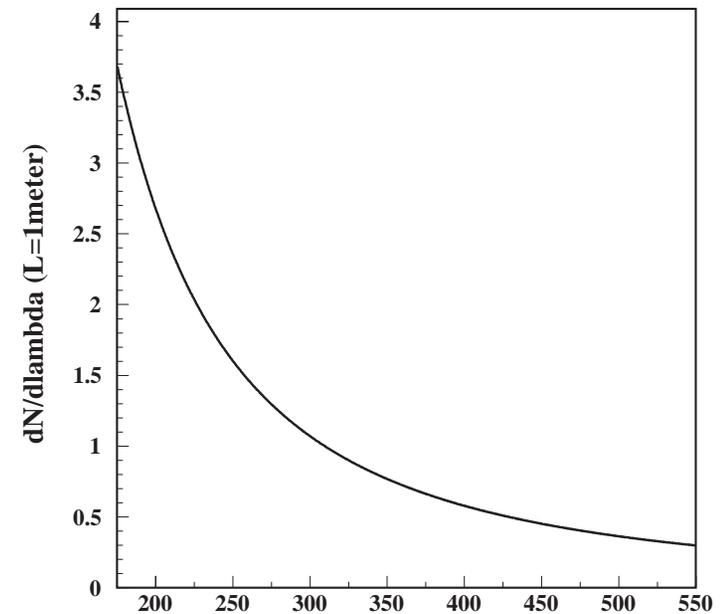
# More information on gas choice: C<sub>4</sub>F<sub>10</sub>

- Roughly same thresholds as Freon114:
  - $\pi$ : 2.7 GeV
  - $K$ : 9.4 GeV
  - $p$ : 17.9 GeV
  - (often see lower thresholds – depending on source)
- Greenhouse gas, but readily available (used as fire suppressant)
- Similar density: 10.1 g/L (vs 7.2)
- Plenty of previous experience in CKV detectors
  - SLD Crid / Delphi Rich / Hermes Rich / etc..
  - Do need to worry about contamination
    - Molecular sieve / activated carbon were sufficient in previous cases.

# Small variation in index of refraction in region of interest



$dn/dE \sim 53 \times 10^{-6} \text{ eV}^{-1}$  for 6.5-7.5eV



# More information on gas choice: C<sub>4</sub>F<sub>10</sub>

- Cost:
  - Rough quote from 3M = \$24/lb in 55 lb quantities
  - Approximately \$1800 per fill
  - No need to recycle gas
- Gas system:
  - Strawman proposal by D. Northacker
  - Starting to work through the details..