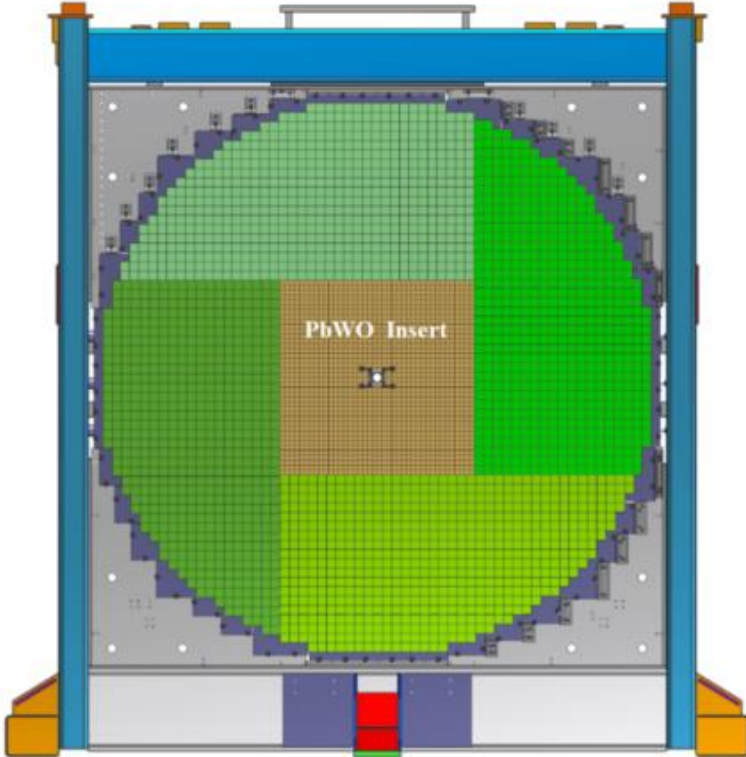# FCAL 2 in Hall D

Sasha, 11/3/22

- Replace the inner part of the lead glass calorimeter with high-granularity high-resolution PbWO crystals

  - Number of FCAL lead glass blocks: 2800

  - Replace: 432 lead glass modules from the inner section by 1600 PbWO – based modules

  lead glass size: 4 cm x 4 cm x 45 cm
  PbWO crystal size: 2 cm x 2 cm x 20 cm

Timeline:

- fabricate 1600 (+spares) PbWO modules by March 2023
- start disassembling FCAL2 in Hall D in May 2023
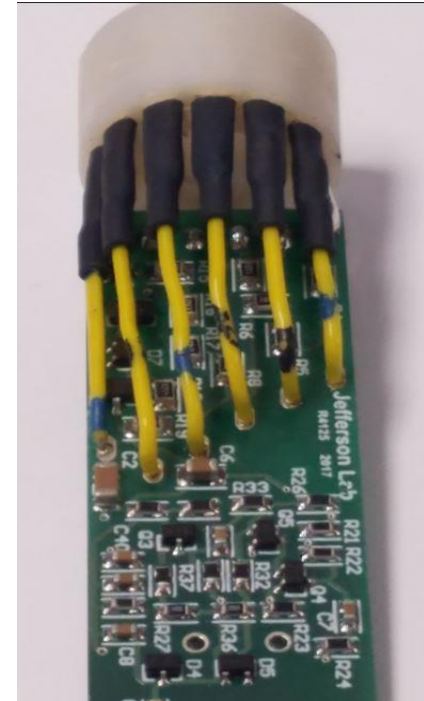- start installing lead glass and PbWO modules in the end of June 2023

Status of the FCAL 2 Module Construction

- Number of fabricated modules: 1318   (need to fabricate 282 modules)

- Wrapped crystals (Mindy, some students in summer):   576 (SICCAS) + 742 (CRYTUR) = 1318

- Preshaped ESR films (George):   900 (SICCAS) + 890 (CRYTUR)
All done including spares !
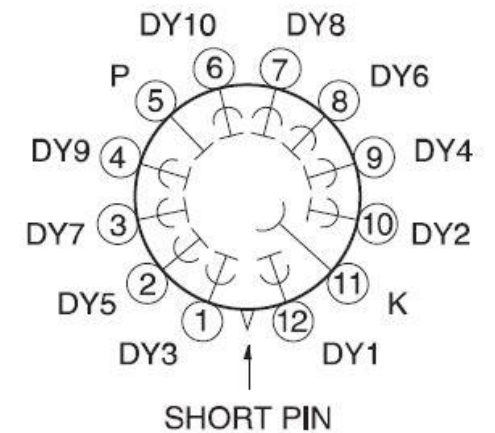
- Continue wrapping crystals (Mindy):

    - About 80 crystals are available

    - We'll need to rewrap 140 CCAL modules (currently used by the PrimEx experiment, will be available in January 2023)

Possible Tasks During FCAL2 Module Fabrication (before May 2023)

- Continue wrapping crystals (Mindy):

- Prepare PMT sockets for installation

  (available 1600 sockets now)

- Check of PMT active bases (they will be ordered in November). Expect to get some in Feb 2023

Wires added to pins 6 through 11

Possible Tasks During FCAL2 Installation
(after May 2023)

- Help to disassemble FCAL modules. Help to install lead glass and lead tungstate modules (some students will be involved)

  - start disassembling detector in May 2023.
  - start installing modules in the end of June

- Perform visual inspection of uninstalled lead glass modules (coordinate student's activities)

https://halldweb.jlab.org/wiki/index.php/FCAL_Installation

- Repairing lead glass modules (if needed), fix wrapping, etc.

  - A few students will be available, coordinate activities
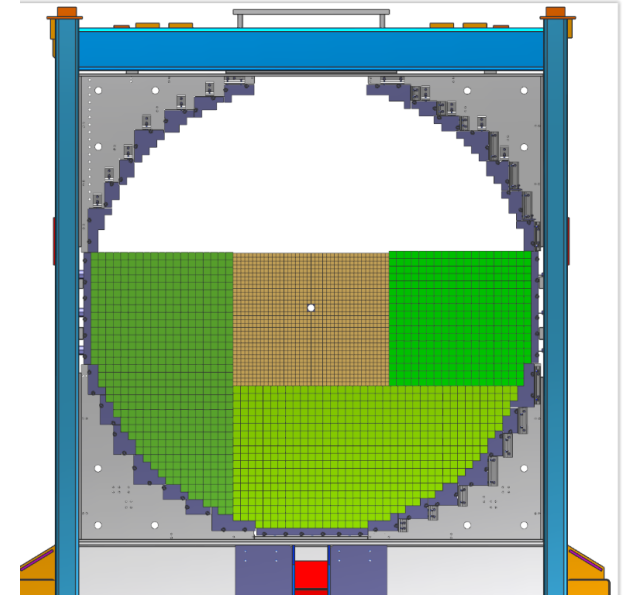
Possible Tasks During FCAL2 Installation

- Help to Install cables:

  Short cables in the FCAL dark room going from patch panels to
  PMT dividers, connect to the divider (LV, HV, signal, 1600 of each time)

  Cables connecting VSX readout and HV / LV crates

  Any help with these tasks is very appreciated !