On the Potential Use of CLEO CsI(Tl) for SuperB

Topics

- Use as backstop in L(Y)SO beam tests
- Deploying as Backward Endcap in SuperB

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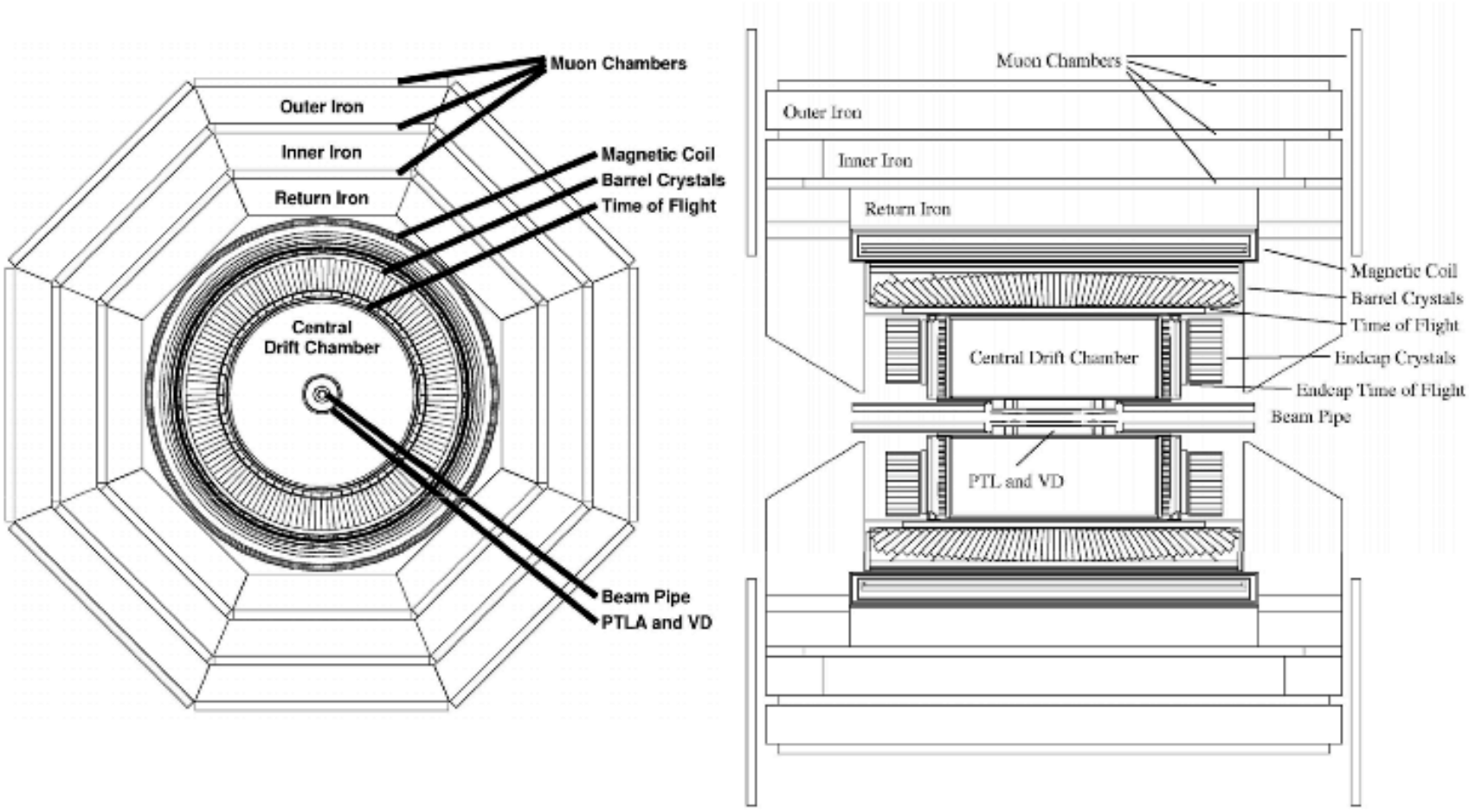
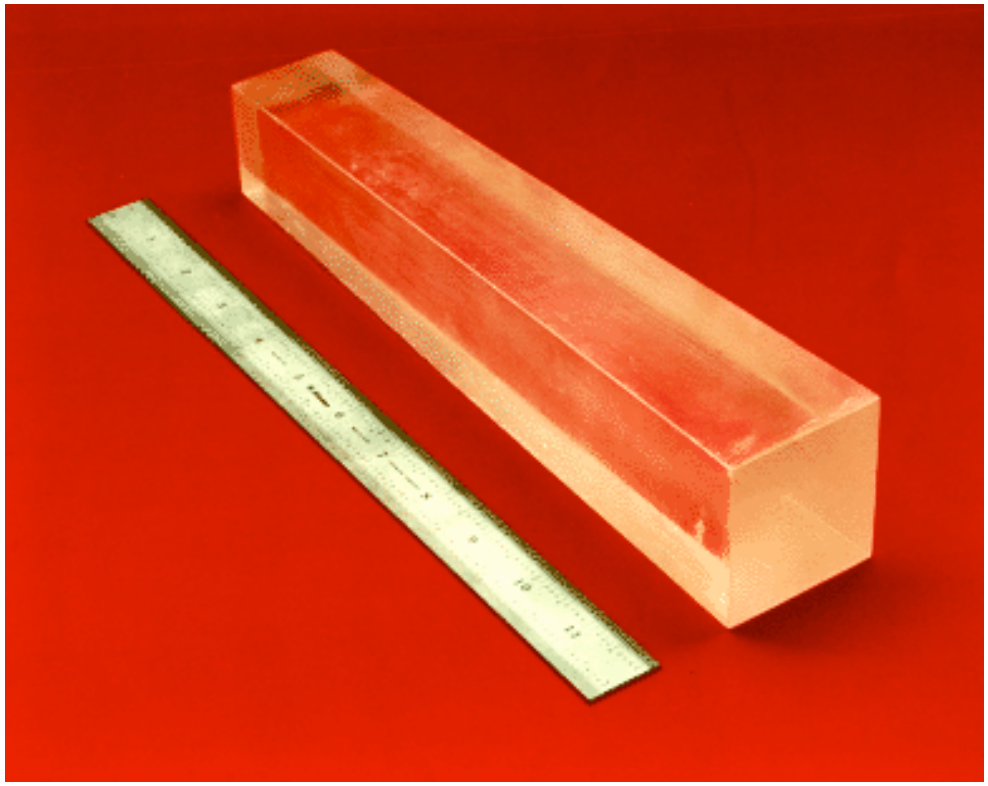
CLEO II Detector -

same CsI for CLEO II.V, CLEO III, CLEO-c



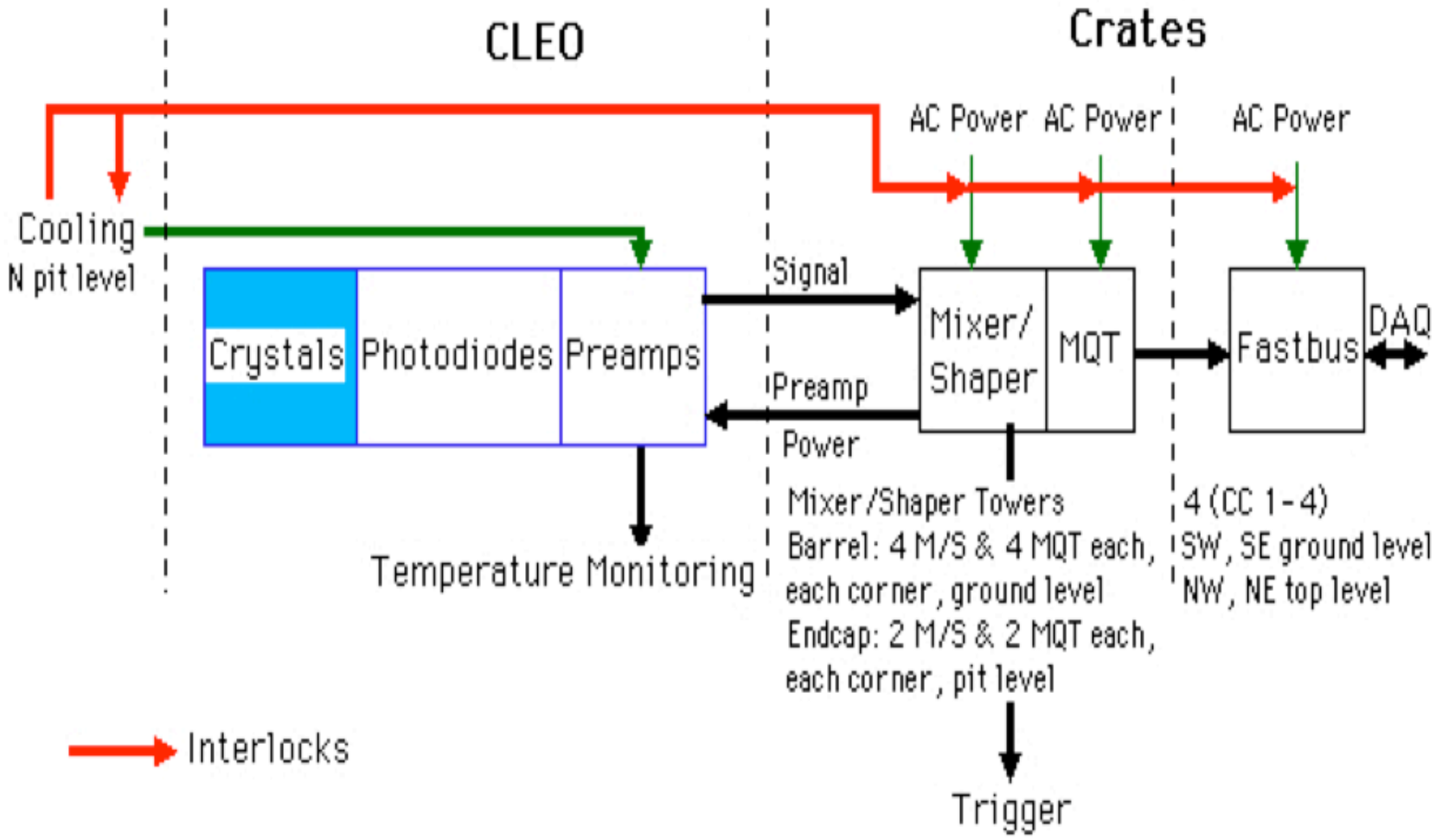
CLEO II calorimeter

- 7800 thallium-doped Cesium Iodide (CsI) crystals
- 5 cm square by 30 cm long.
- Four silicon photodiodes mounted on a lucite window on the rear face of each crystal
- Barrel
  - 6144 crystals
  - Projective geometry
- Endcap
  - 820 crystals/endcap

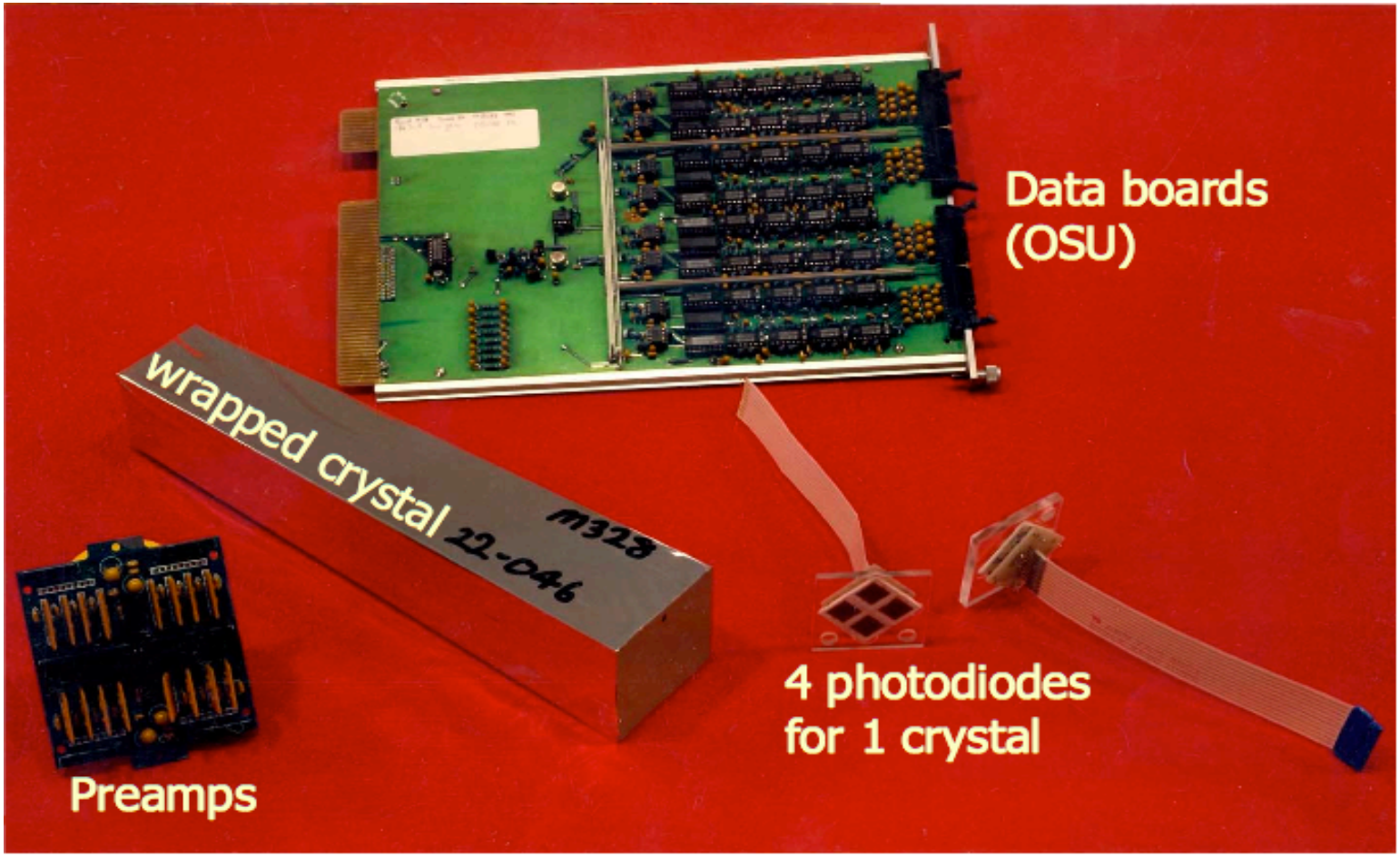


Endcap Configuration

CLEO Crystal Calorimeter

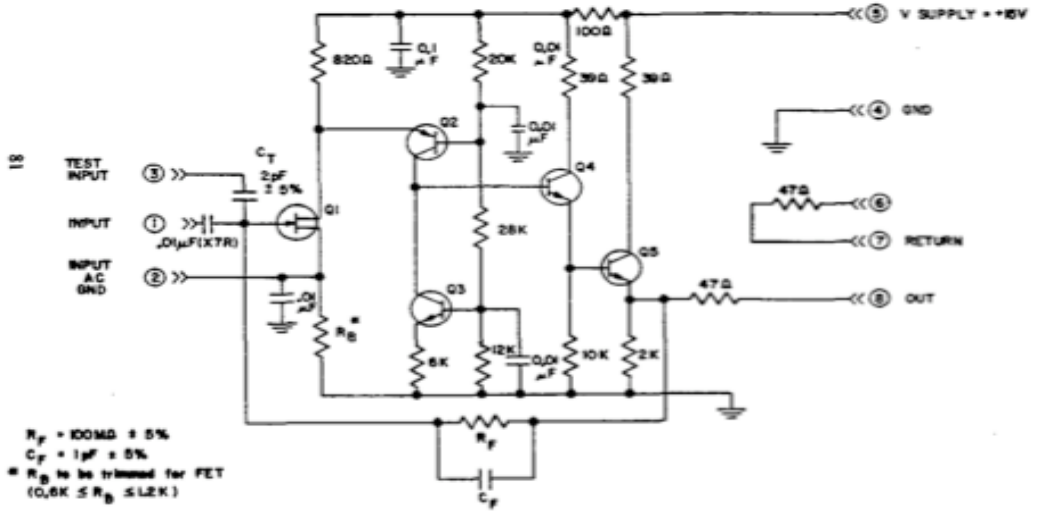


CsI Components



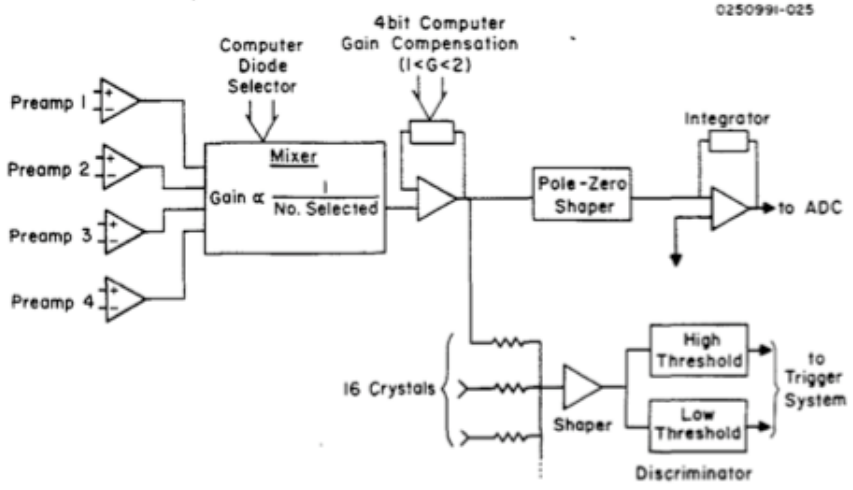
Schematics

- Circuit diagram for pre-amp connected to Si photodiodes



38 Circuit diagram of the preamplifier connected to the silicon photodiode.

- Schematic of the mixer shaper circuits between the pre-amps and the ADC



39 Schematic of the mixer/shaper circuits between the crystal preamplifiers and the ADC's.

What do we need? What is available?

- L(Y)SO beam tests
  - How many crystals do we need?
  - Do we need mixer/shaper/power crate?
  - Do we need MQT crate?
- SuperB EndCap
  - How many crystals do we need
  - Do we need mixer/shaper/power crate?
  - Do we need MQT crate?

- So far “all” of CLEO’s crystals are available
- Enough MQT and mixer/shaper/power crates to deploy both endcap
- Enough cables for the L(Y)SO beam tests but NOT for the SuperB endcap

Where do we go from here?

- I meet with LEPP director next week
- Do we need more than just crystals?
- Knowledge transfer
  - It is “known” where the schematics are for the relevant electronics
  - Expertise to operate still exists but is busy on other projects
- Is SuperB interested in CLEO CsI for either/neither/both?
  - L(Y)SO beamtest
  - SuperB Backward Endcap