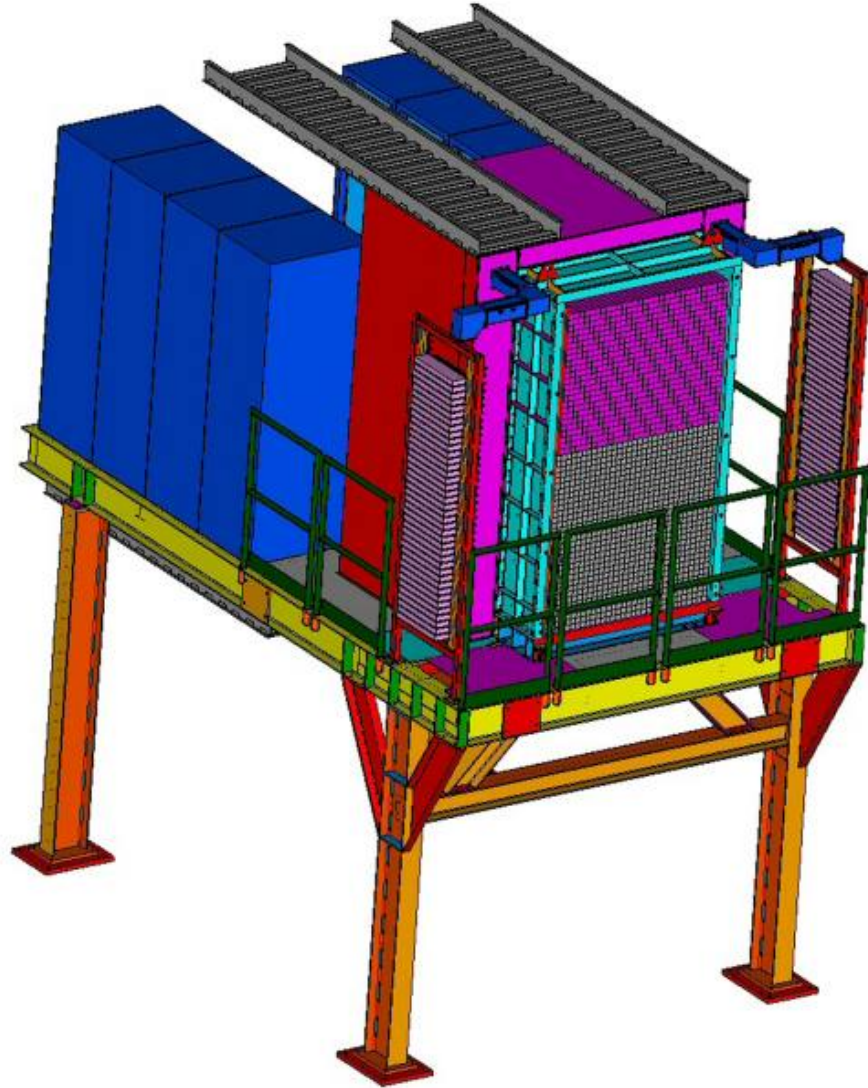


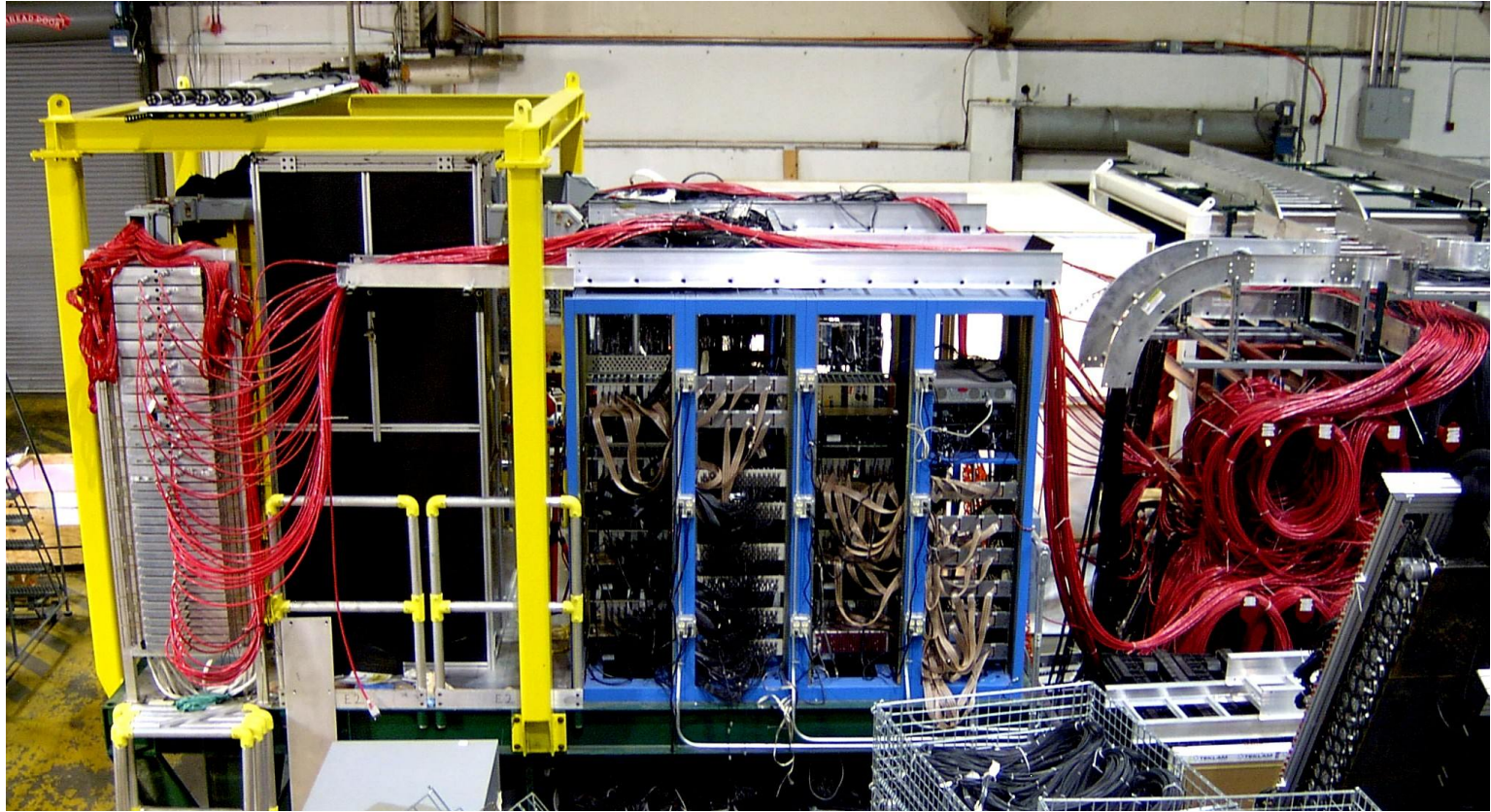
BigCal and gain monitoring system

BigCal overview

- BigCal consists of 1744 lead glass blocks
 - 1024 from IHEP, Protvino
 - 720 from Yerevan
- Groups of 8 Signals go to multiplexing units which pass individual amplified (5x) signal and produce sum.
- Sum output used for TDC and trigger
- Individual signals delayed by 500ns and brought to ADCs.



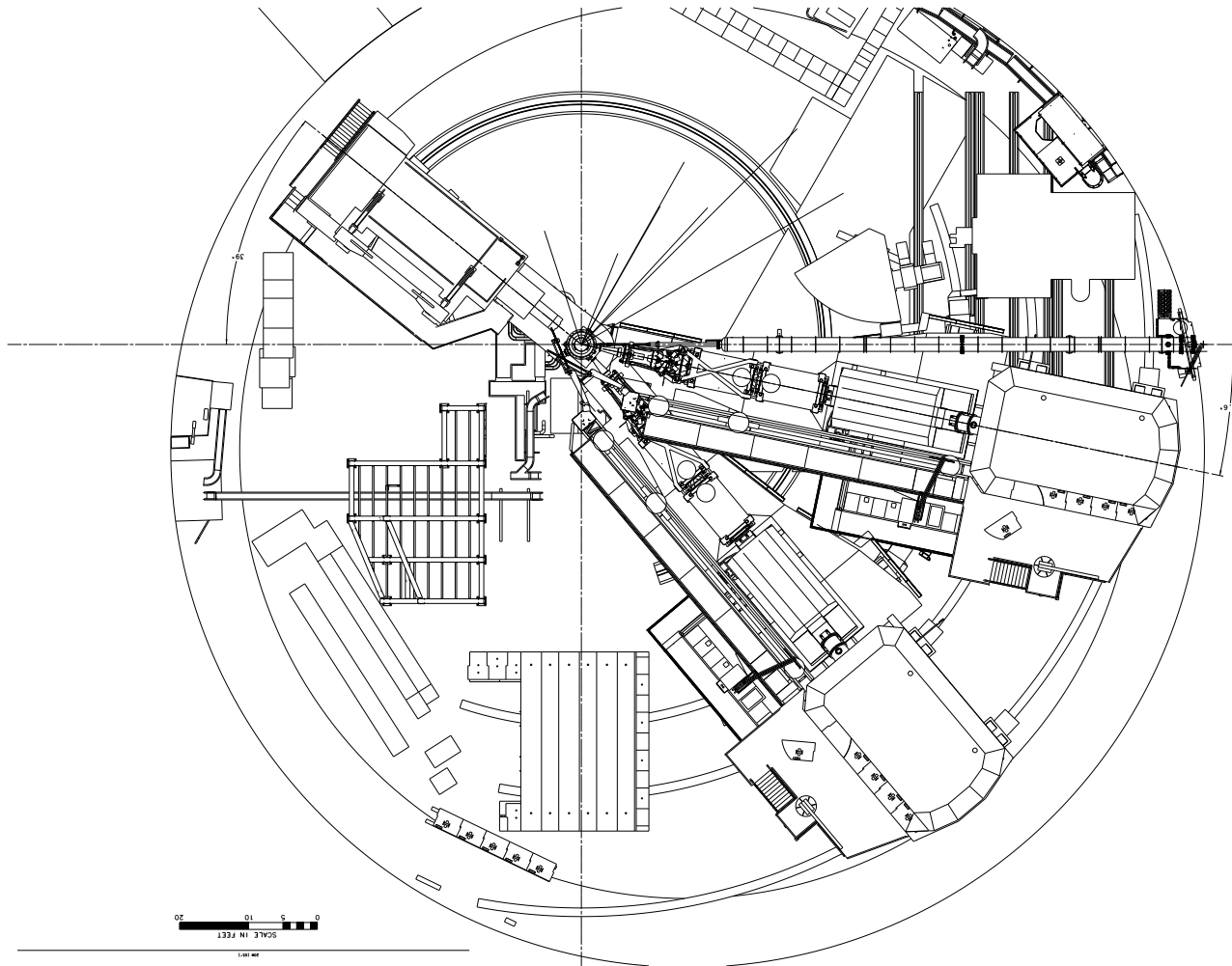
BigCal status



- BigCal has been assembled in Testlab and tested with cosmic data
- Will be installed in mid July 07 and used in Gep2 γ and Gep3
- OSP will be the same needed for SANE.

Hall C overview

DAQ electronics will be located on HMS side of beam. Maximum HMS angle is 50°



Gain Monitoring System

- Use the Hall C UV laser system to illuminate a 1” thick lucite plate.
- The laser system will be located in the counting house.
- Transmit light to distribution box in the hall using the existing quartz fiber.
- Transmit light to a secondary distribution box near BigCal using quartz fiber and then distribute light to lucite plate.

Gain Monitoring System

- Need to restore Hall C UV laser and update the safety documentation and protocols.
- The lucite plate and holder assembly are being fabricated.
- Need to build secondary distribution box and connections to the lucite plate.
- Develop expertise during the GEP experiment

Transitioning BigCal for SANE

- Need to anneal lead-glass. Two possible approaches:
 - Large intense UV source (as was done in Hall A). Need to remove and then remount PMTs. Time to complete 4 weeks.
 - Smaller UV source (as was done in Mainz). Done with PMTs in place. Time to complete 2 weeks
- Move cables to come from the side instead of front. Time to complete 2 weeks. (Can do in Jan-Feb)
- Polarized target magnet field expected to be 5G at the Bigcal PMTs (which are 370cm from target).

Experts on BigCal

- IHEP Protvino, *Andre Davidenko, Yuri Goncharenko, Vladimir Kravtsov and Yuri Melnik*
- Yerevan *Hamlet Mkrtchyan, Vardan Tadevosyan, Arshak Asaturyan and Arthur Mkrtchyan*
- Yerevan *Hakob Voskanyan, Albert Shahinyan and Samvel Mayilyan*
- College of W&M, *Lubomir Pentchev*
- U. of Virginia, *Dinko Pocanic, Emil Frlez and Maxim Bychkov*
- JLab, *Mark Jones*
- Ample opportunity during GEP experiments to develop expertise.