Test Beam Planning for BHCAL

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Barrel Hcal Meeting

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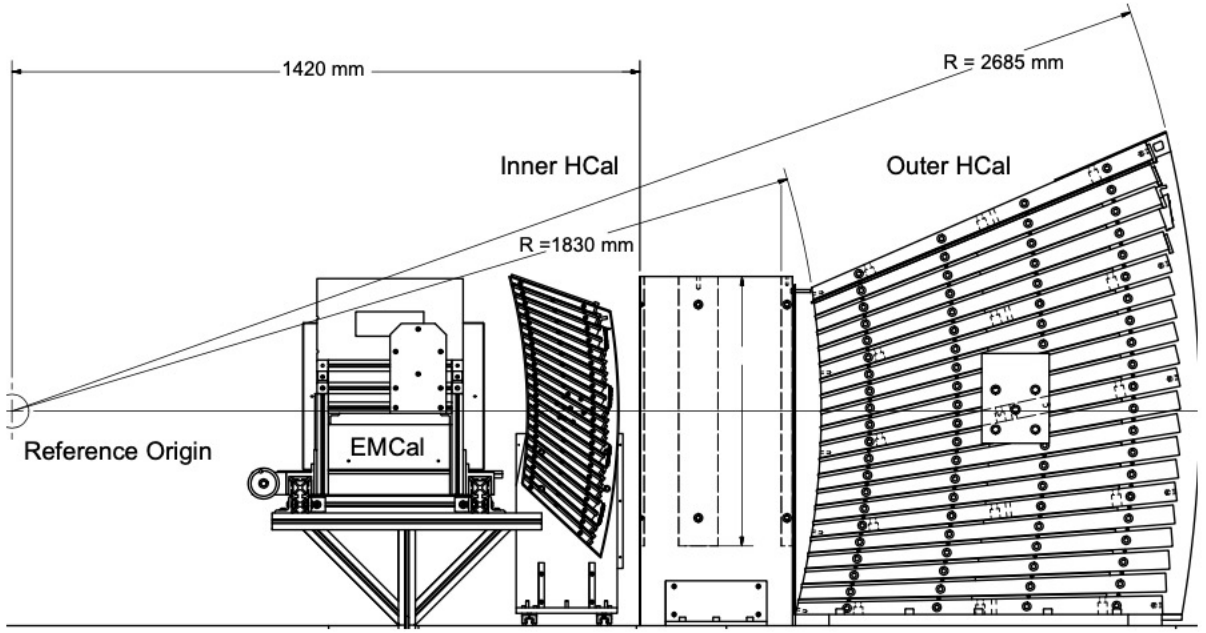
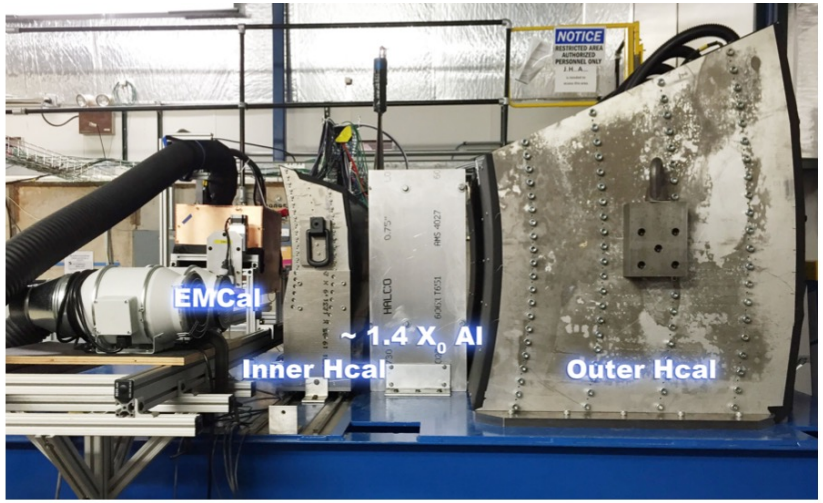
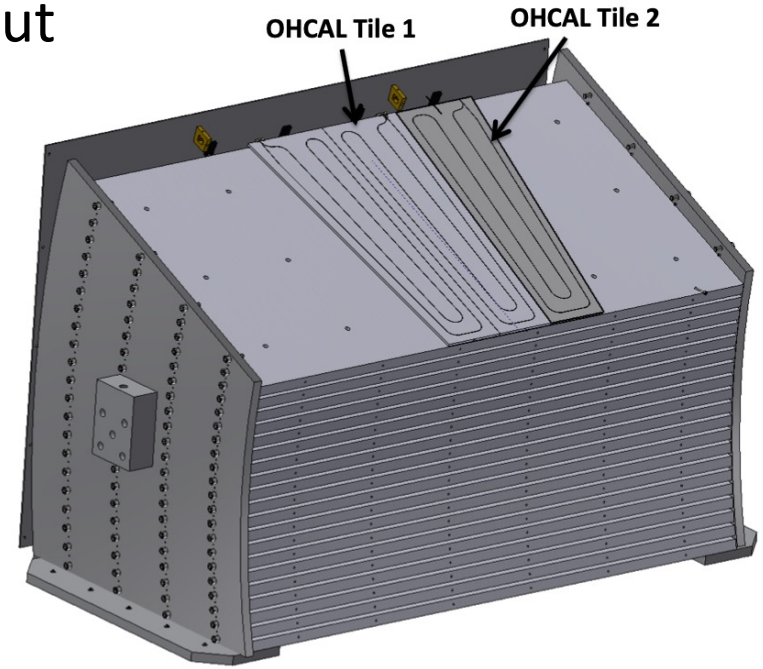
Why a test beam?

- We had a very successful sPHENIX test beam
- What's new?
  - New SiPMs
  - Read out of each tile
  - HGCROC electronics readout





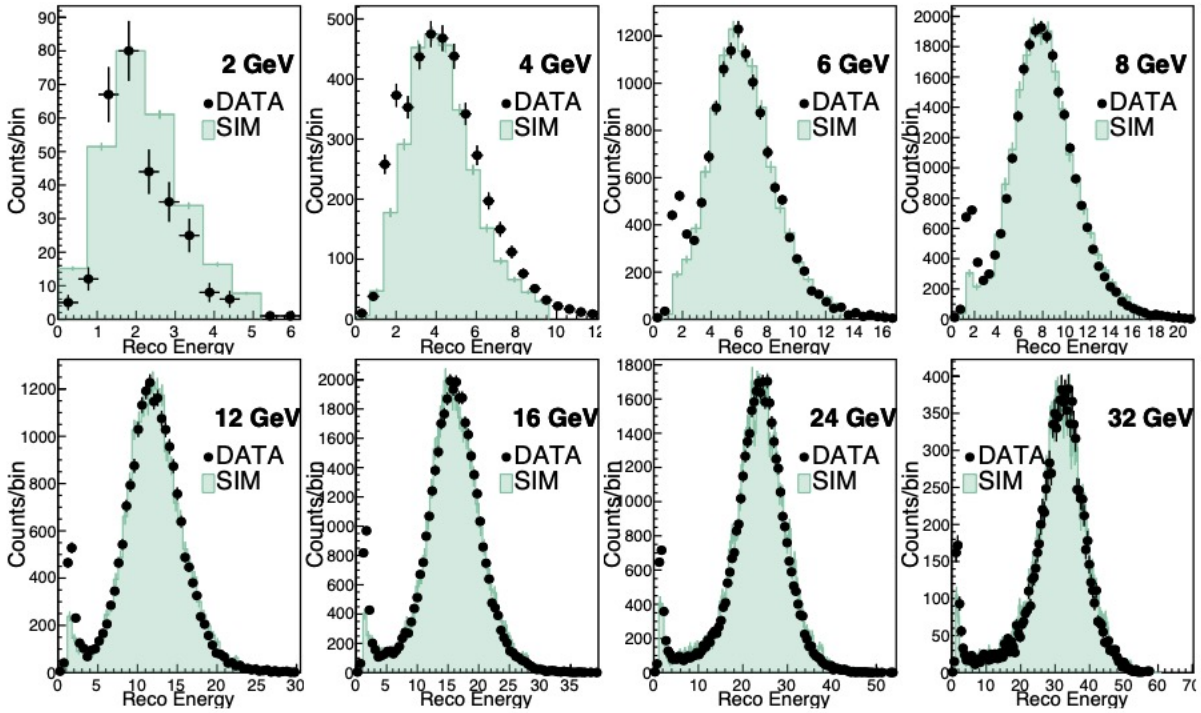


What we have and need

- Steel prototype at BNL
- Spare Hcal Tiles at GSU
- Electronics from ORNL
- SiPMs
- Cables
- Material in front
- Simulation
- Shipping costs
- Submit request to FTBF by Aug 19!

Request to FTBF

- sPhenix used:
  - Secondary beam
  - Enclosure: MT6.2D

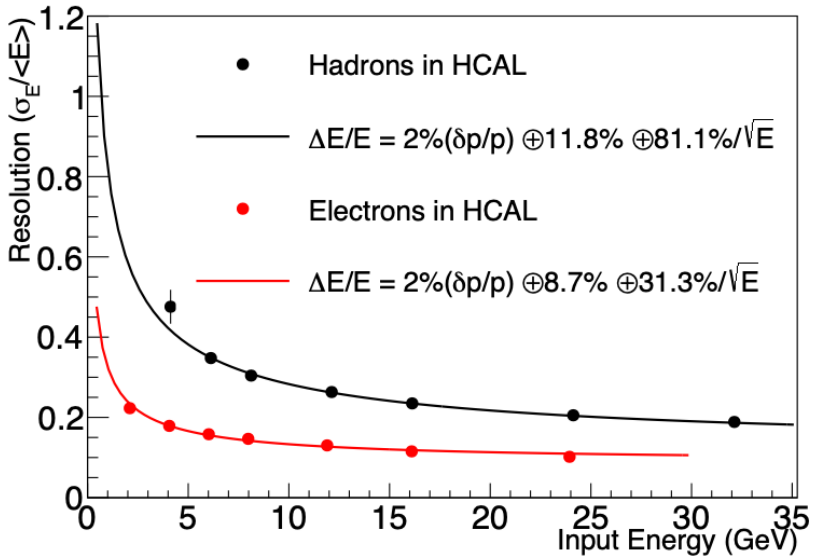


What beam energy do you need?

- [ ] 120 GeV Protons
- [ ] 2 GeV - 30 GeV Secondary beam (mix of kaons, muons, pions, etc)
- [ ] up to 80 GeV Secondary beam
- [ ] Tertiary beam (< 2 GeV). Note this might not always be available.

Where do you want to be located? See this link for description: http://ftbf.fnal.gov/mtest-beam-areas/

- ○ MT6.1A
- ○ MT6.1B
- ○ MT6.2A
- ○ MT6.2B
- ○ MT6.2C
- ○ MT6.2D
- ○ M03 (High radiation are
- ○ Unsure
- ○ Irradiation Test Area




Beam Areas
Work Areas
Control Rooms
MS4
MT6.2
MT6.1
MC6
MC7

Request details

- Intensity?
- Need a crane
- Dates?
  - After December
  - Before RHIC run
- Length?
  - 3 weeks sufficient?

What intensity do you need? "Counts" means the number of particles hitting our scintillator counters during one 4 second spill. Please see our website (https://ftbf.fnal.gov/beam-overview/) for information on the beam.

- [ ] <10,000 counts
- [ ] 10,000 - 50,000 counts
- [ ] 50,000 - 100, 000 counts
- [ ] > 100,000 counts

Please list your preferred run dates. Runs start on Wednesdays and end on Tuesdays including installation/retrieval. A nominal run includes 12 hours per day of primary beam control. We are currently scheduling from November 13 2024 through July 2 2025 until the beam schedule solidifies. Please indicate separately any requests for primary and parasitic beam time.

Your answer

How sensitive to material upstream are you? Can you run with another group in front of you? Is your detector very thick and will block groups behind you?

Your answer