## **10TeV Muon Collider Detector Meeting**

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**Understanding ECal. Energy Deposits** 

## **Minimum-Energy Thresholding**

- Data in /collab/project/snowmass21/data/ muonc/fmeloni/DataMuC\_MuColl10\_v0A/ photonGun\_1000/reco\_k4.
- Last time talked about time-structure of digitized hits in ECal.
- Investigated the effect of setting a minimumenergy threshold.
- Want to understand further how consistent this energy deposit structure is.
  - If reasonably consistent event-to-event, then losing energy to the cut will pose less of a challenge to reconstruction.



Fig. 1. Energy retention as a function of mimimum energy threshold for a single signal photon.





## **Minimum-Energy Thresholding**

- Data in /collab/project/snowmass21/data/ muonc/fmeloni/DataMuC\_MuColl10\_v0A/ photonGun\_1000/reco\_k4.
- Need insight into the distinction between these two branches.



Fig. 2. Energy collection displayed for two branches, ECalBarrelCollection.energy and ECALBarrel.energy.

![](_page_2_Picture_5.jpeg)

## **Moving Forward**

- How do the average cell energies for the BIB itself compare to these thresholds?
  - understand average cell energy output in presence of BIB.
- time-dependent reduction methods?

• Need to find out how many cells are outputting data using BIB samples to

Would thresholding energy reduce BIB sufficiently, or do we need to explore