

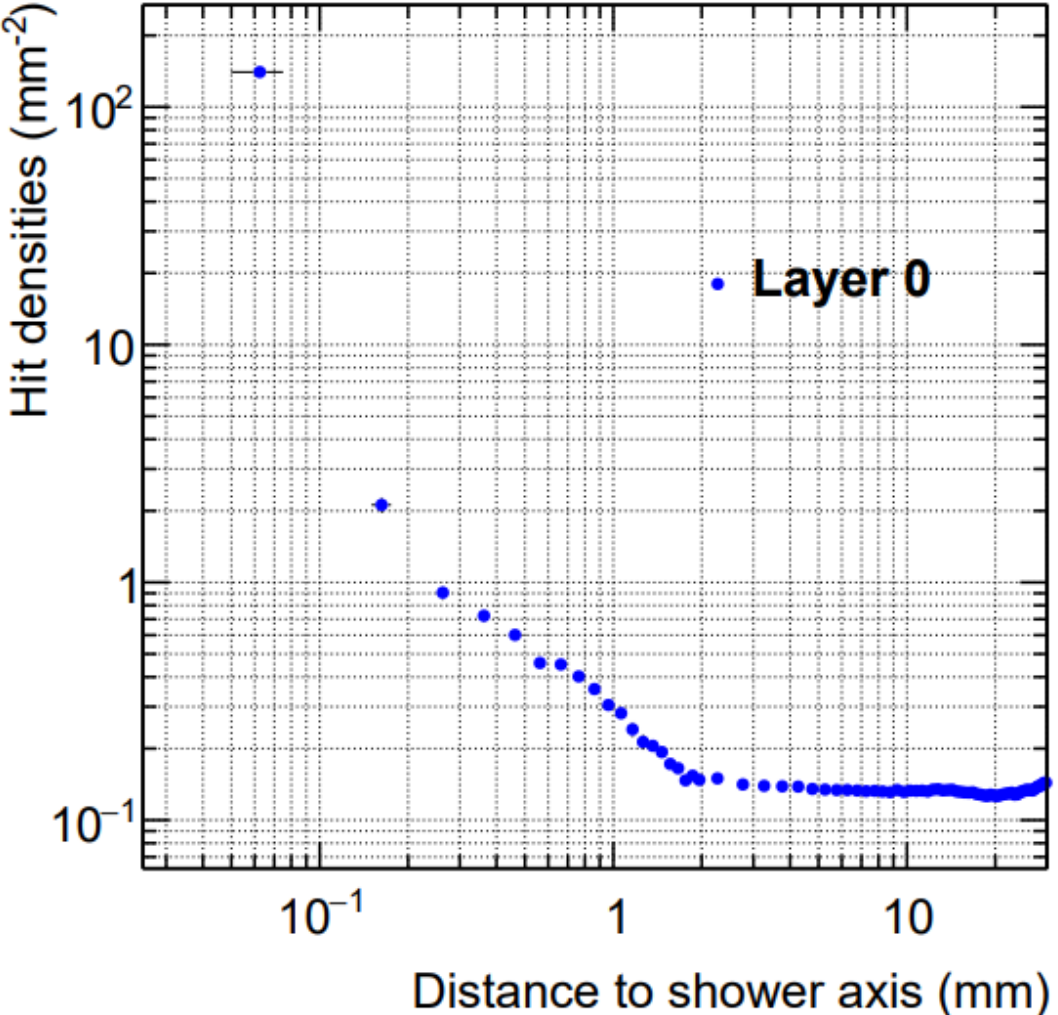
Cumulative Profile Study

Robbie Bosley

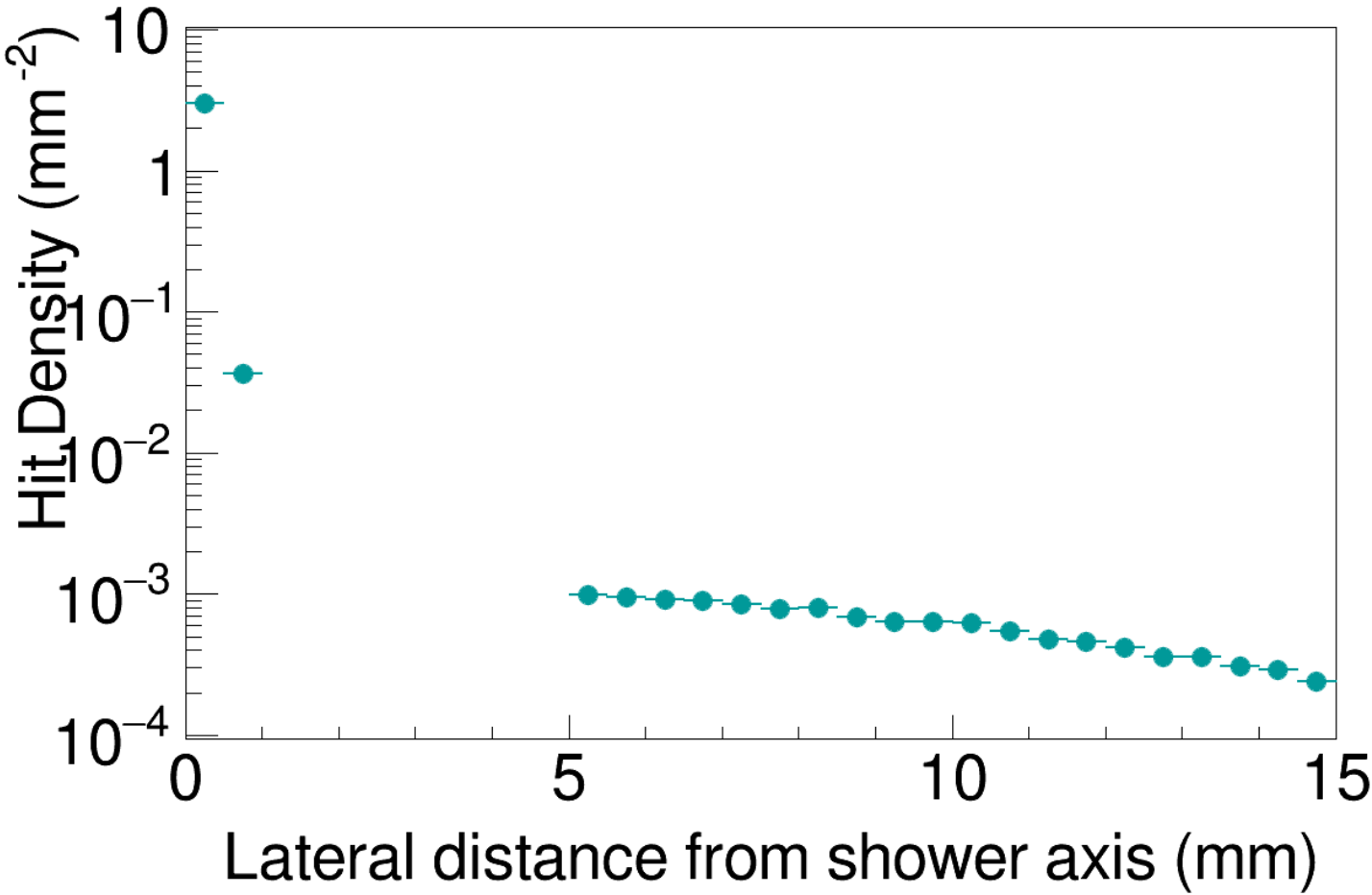
15 September 2021

Layer 0 shower profile (5 GeV)

MIMOSA

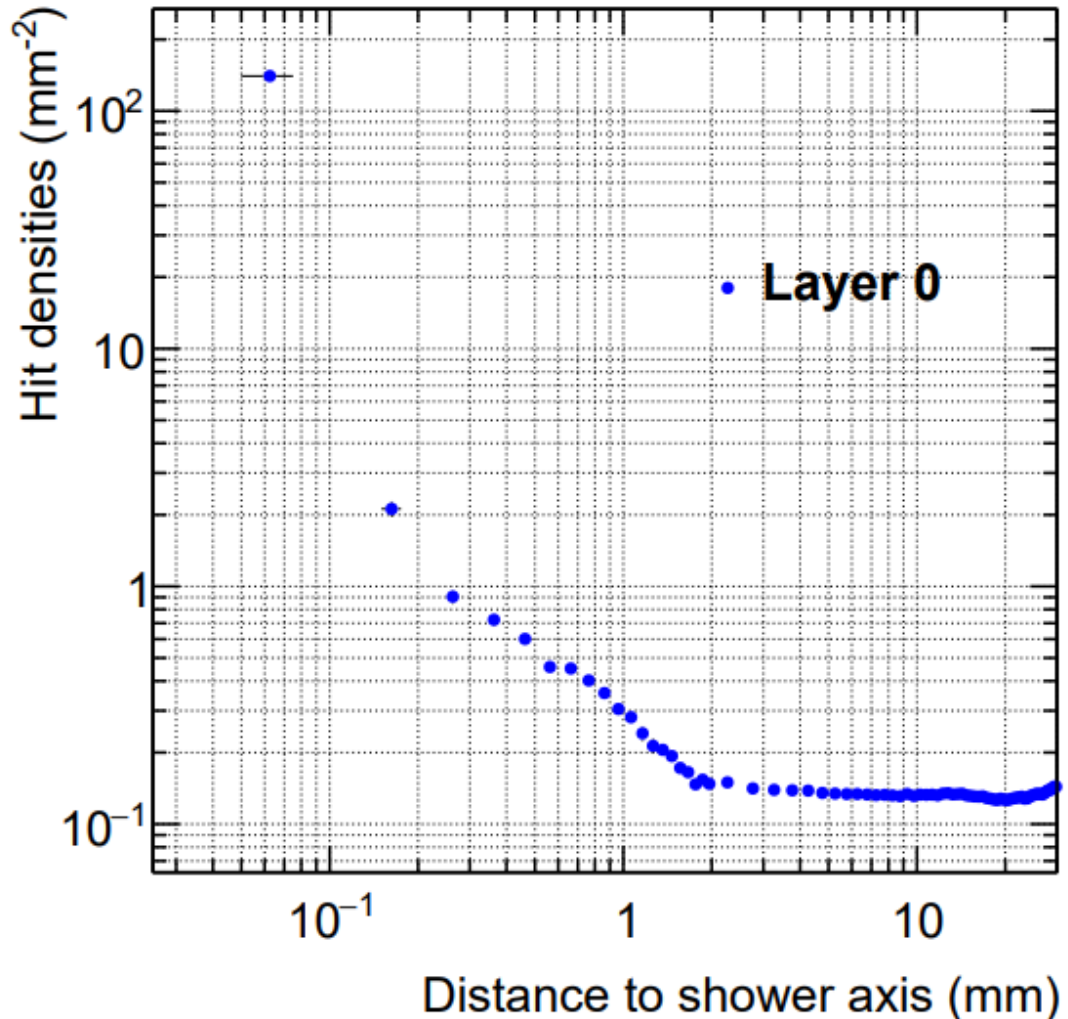


EPICAL-2 (Jet-Finding Selection [B])

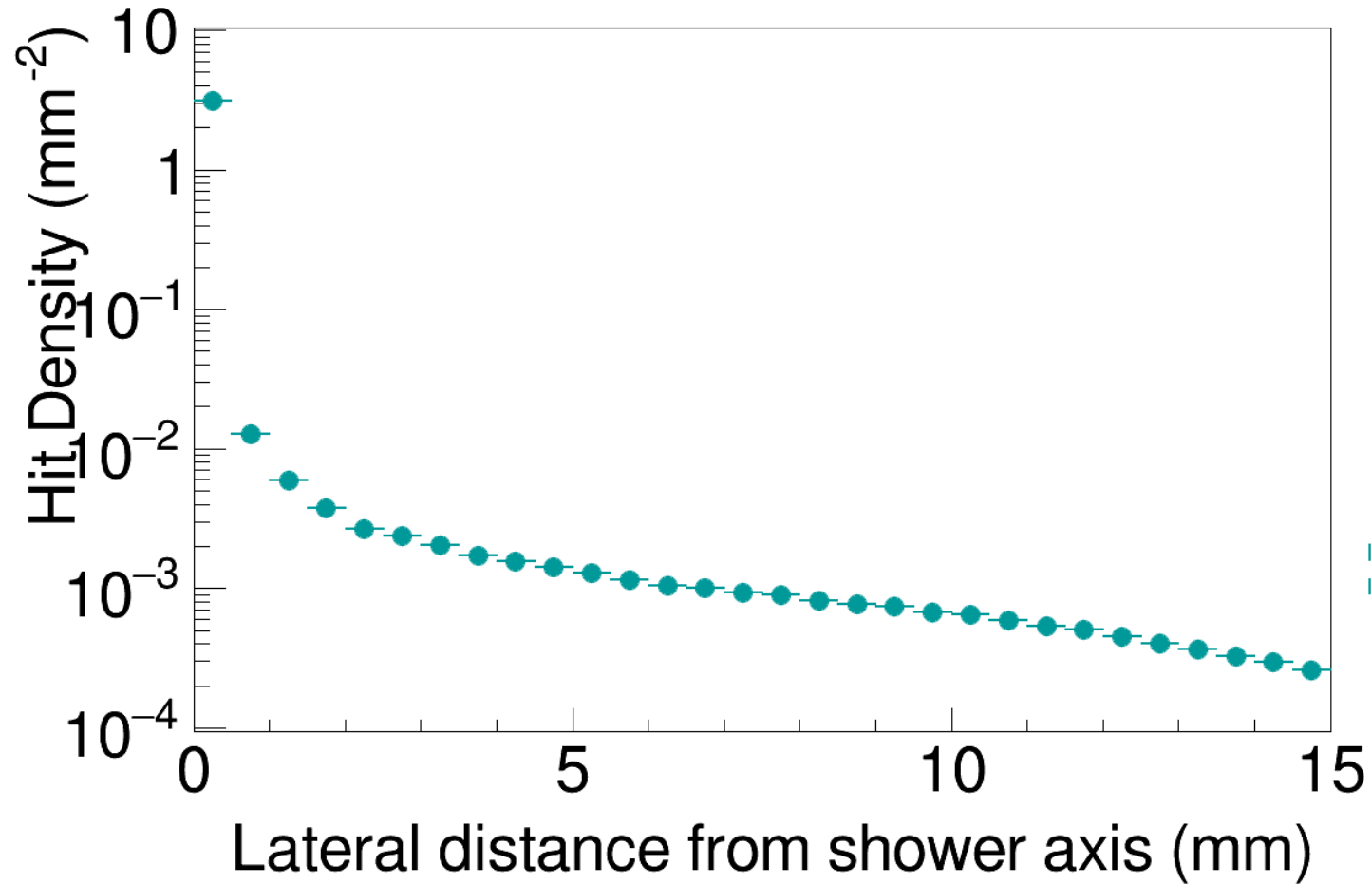


Layer 0 shower profile (5 GeV)

MIMOSA



EPICAL-2 (Multi-Cut Selection [A])



Reason for dip in Event Selection B

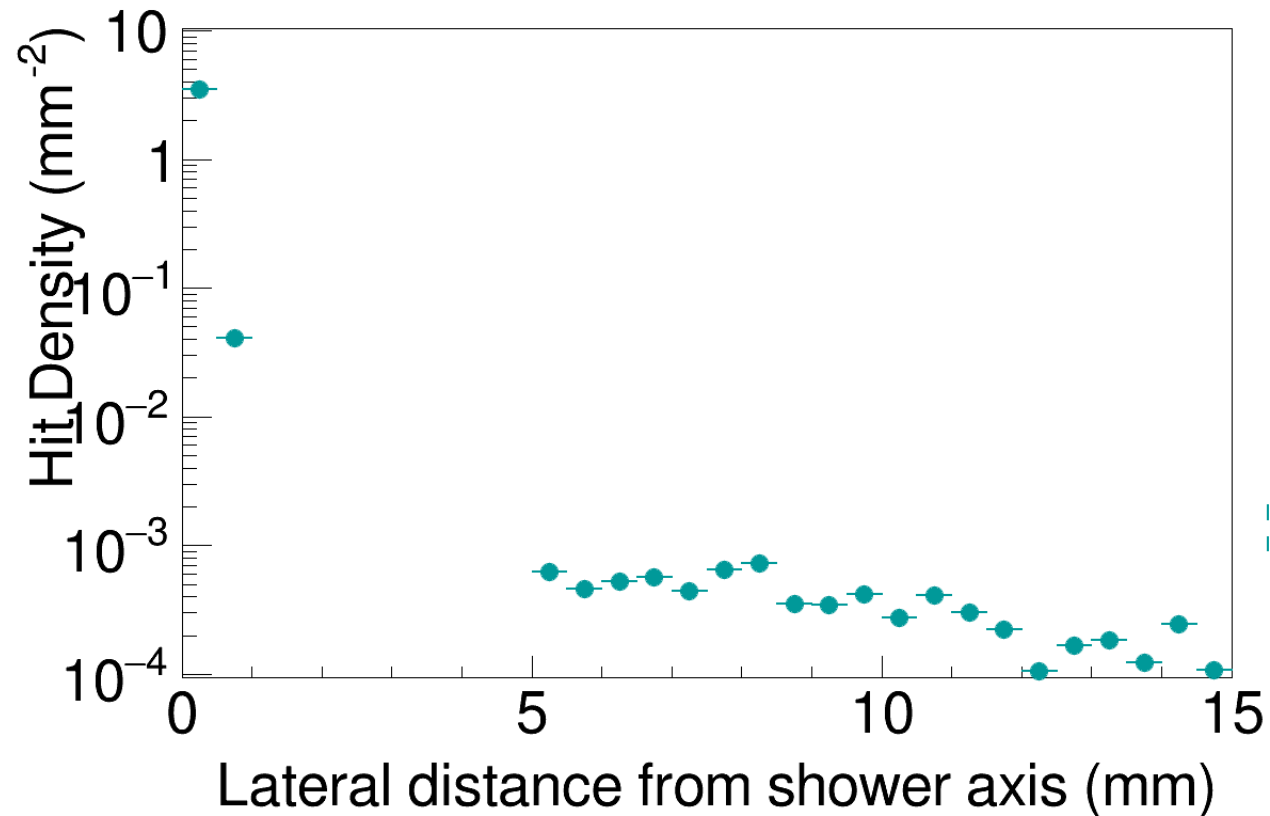
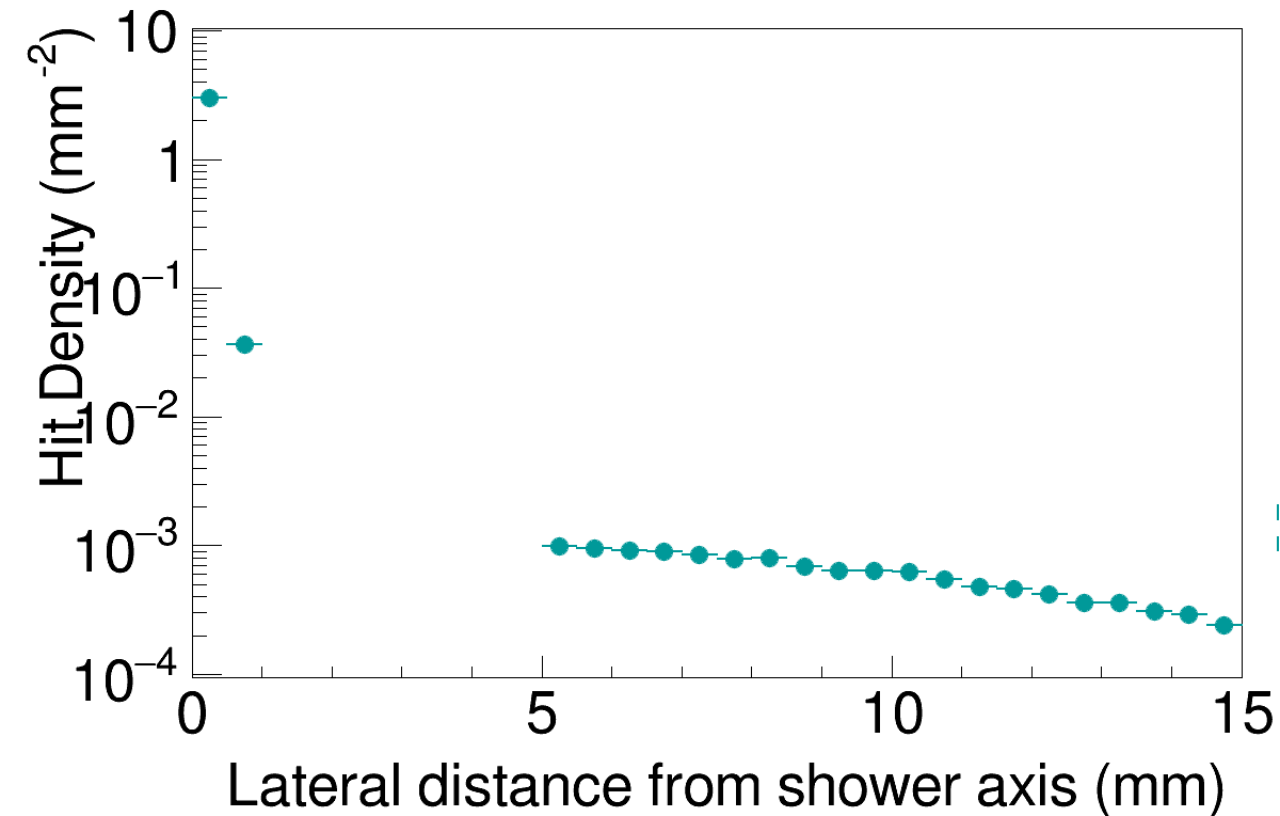
- From the paper:
- Any cluster in the front two layers which contributed to the identified 'particle' jet has a cluster position more than 1mm away from the jet position, the event is rejected.
- If any two clusters in the first two layers which were both involved in the identified jet have positions **more than 0.5mm away from each other**, the event is rejected.
- These two cuts prevent the persistence of events with two overlapping electromagnetic showers, which would produce a single jet using the anti-kt algorithm.

Layer 0 shower profile (5 GeV)

EPICAL-2 (Multi-Cut Selection [B])

Data

Simulations

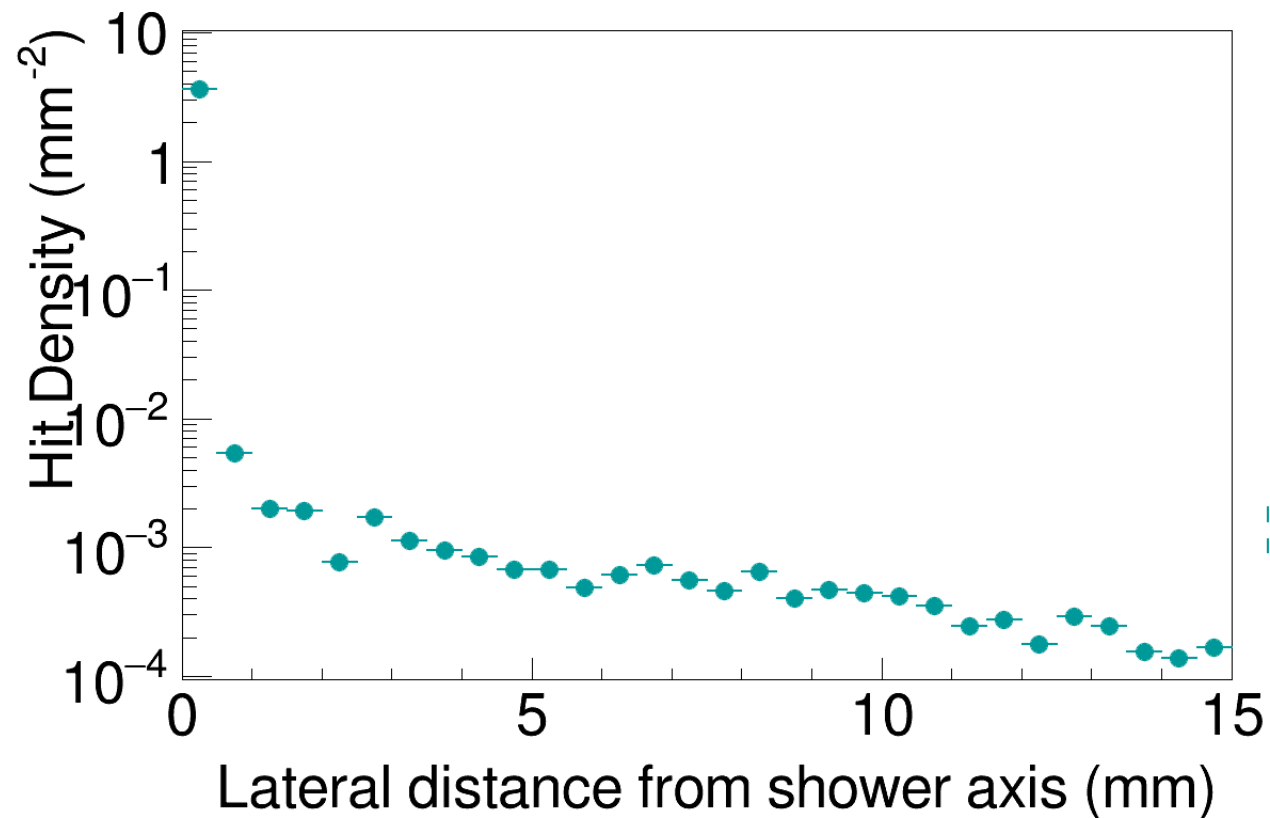
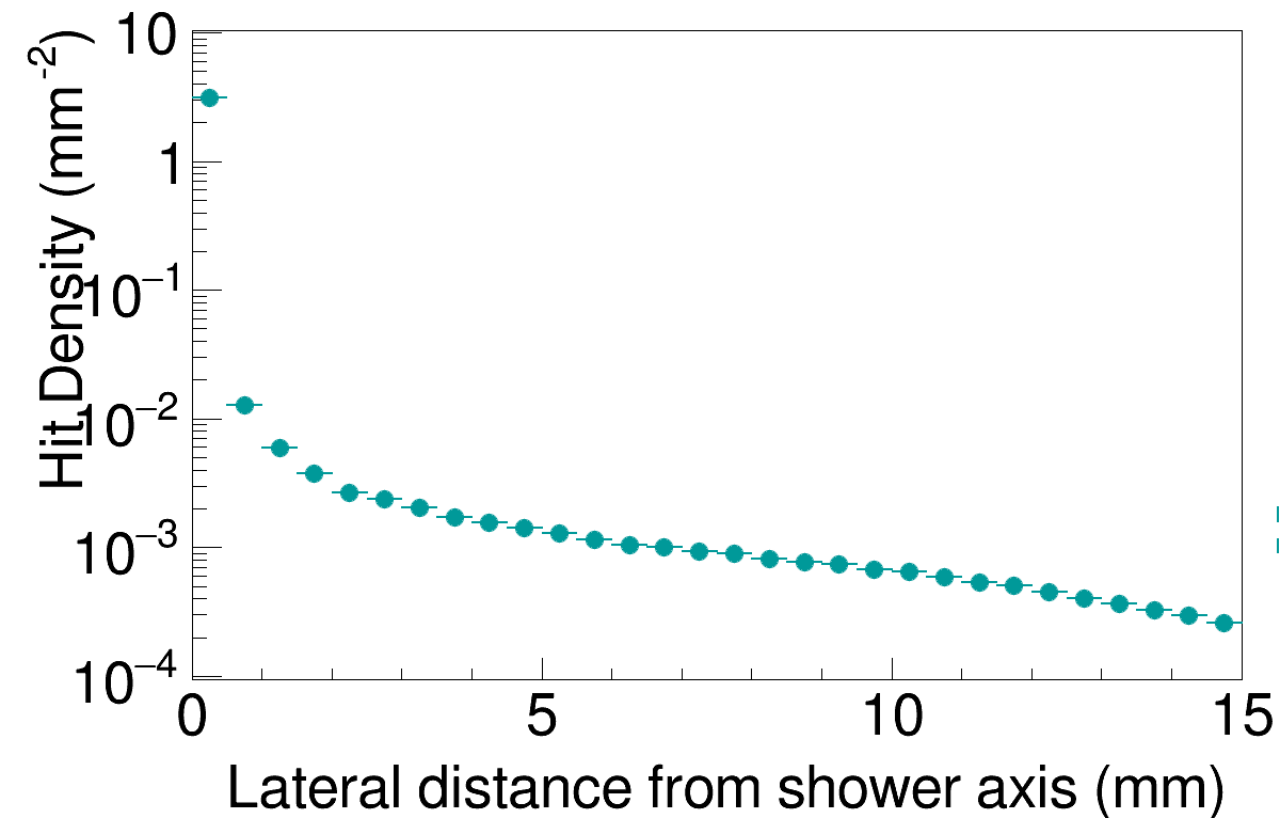


Layer 0 shower profile (5 GeV)

EPICAL-2 (Multi-Cut Selection [A])

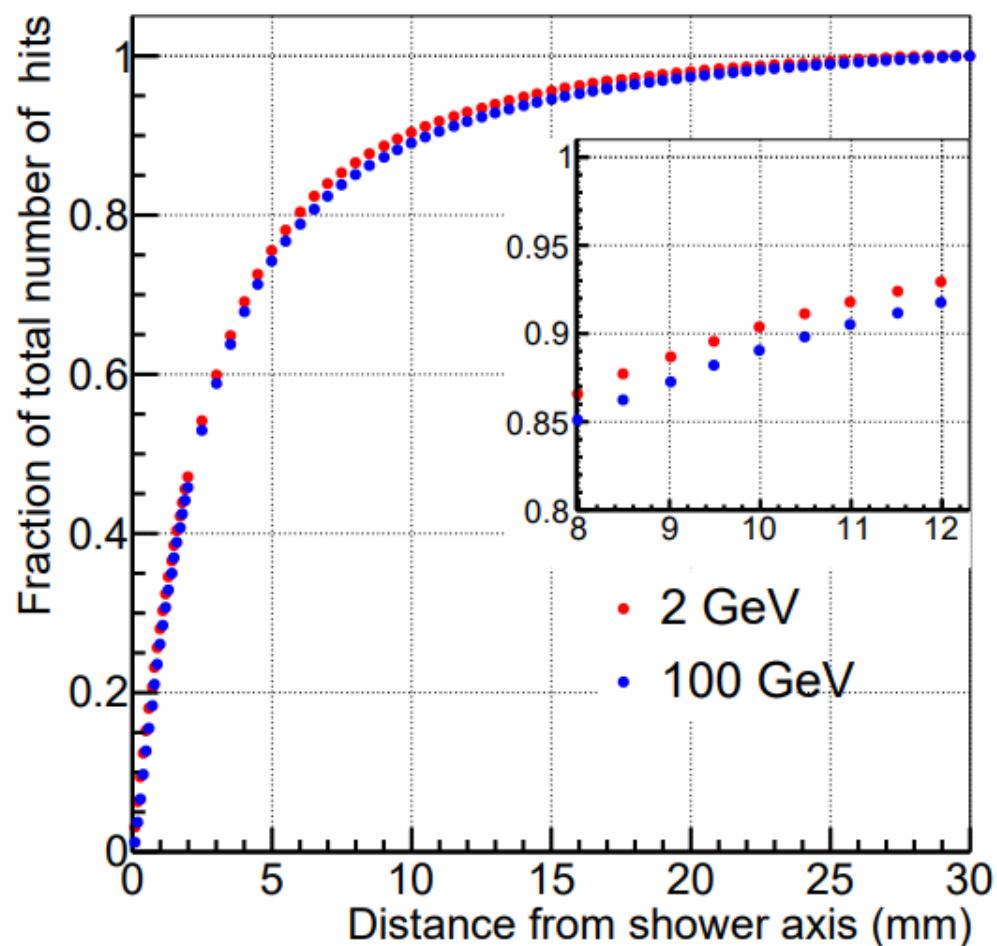
Data

Simulations

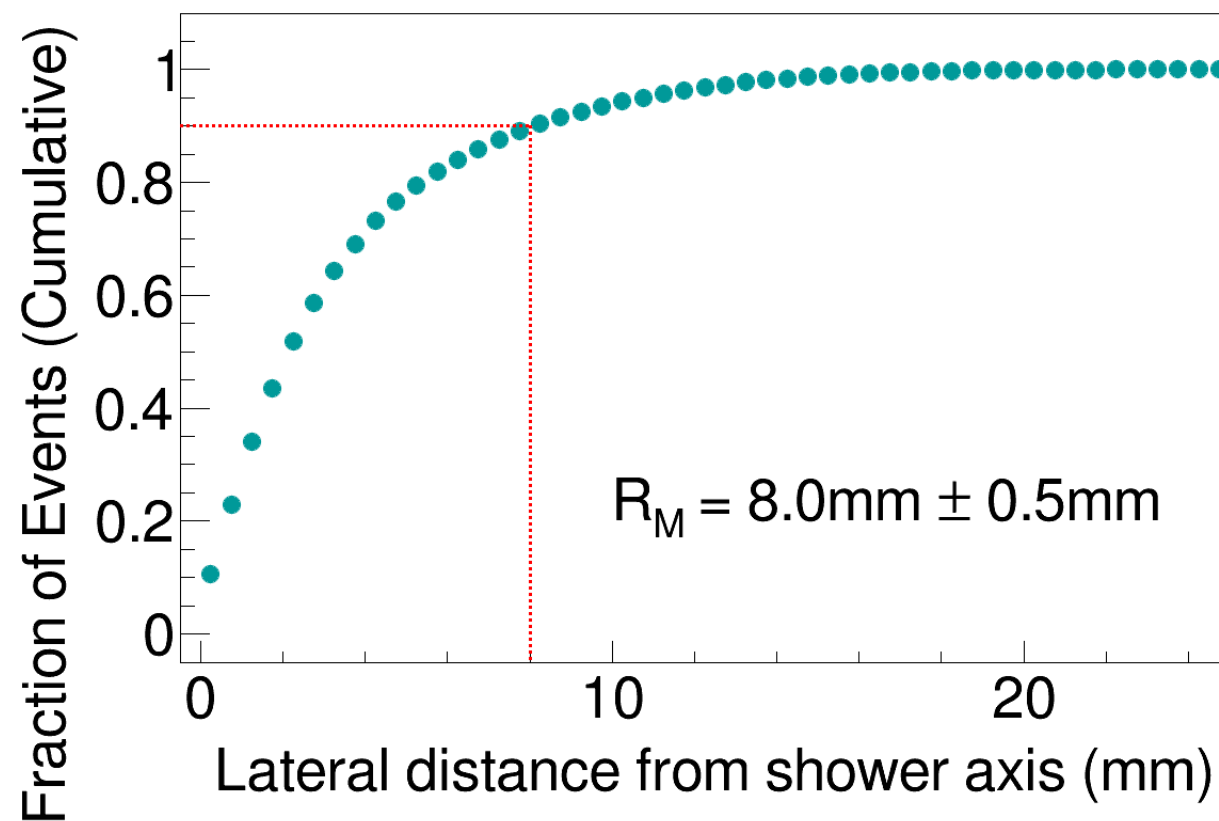


Cumulative shower profile (5 GeV)

MIMOSA

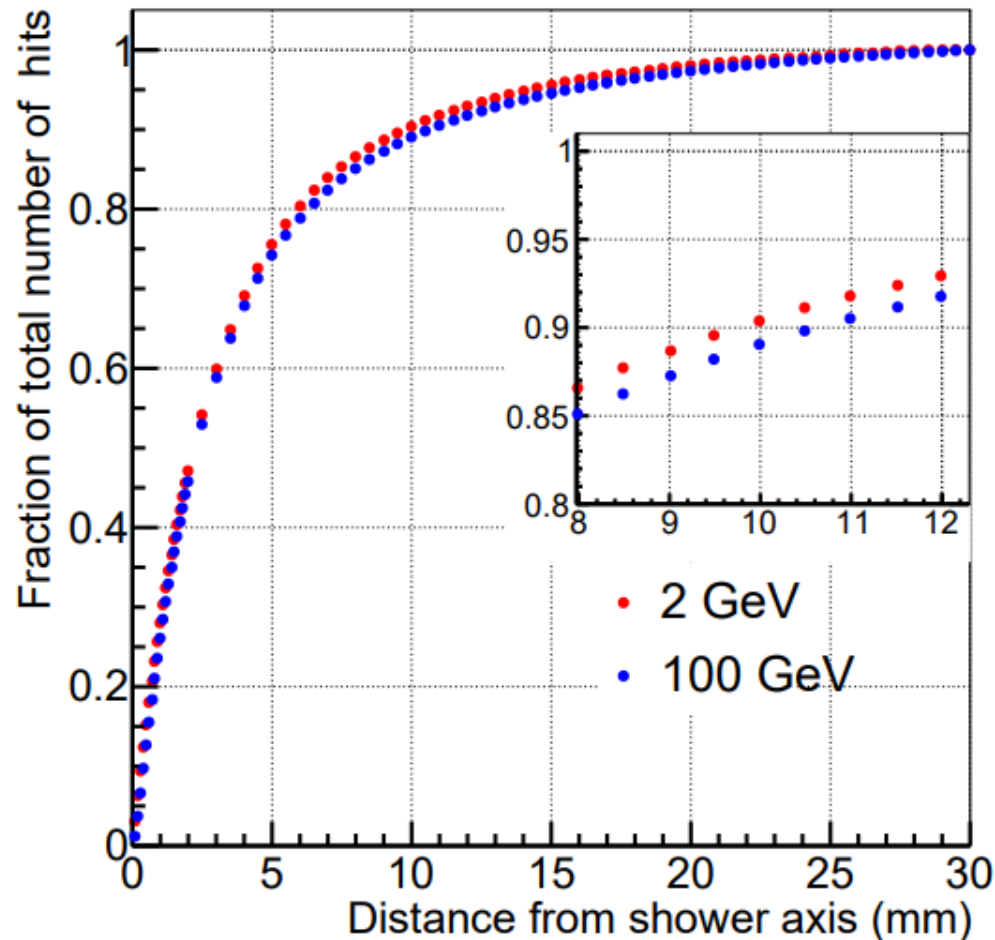


EPICAL-2 (Jet-Finding Selection [B])



Cumulative shower profile (5 GeV)

MIMOSA



EPICAL-2 (Multi-Cut Selection [A])

