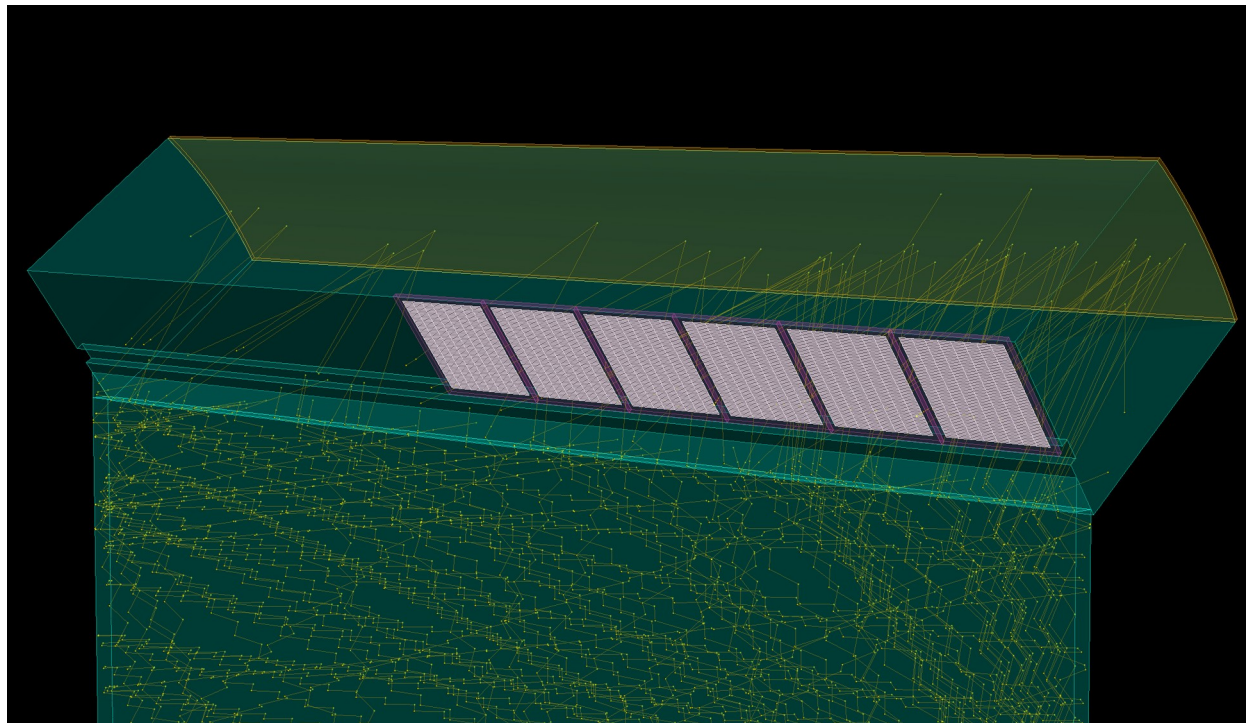


# TORCH prototype in prtdirc simulations



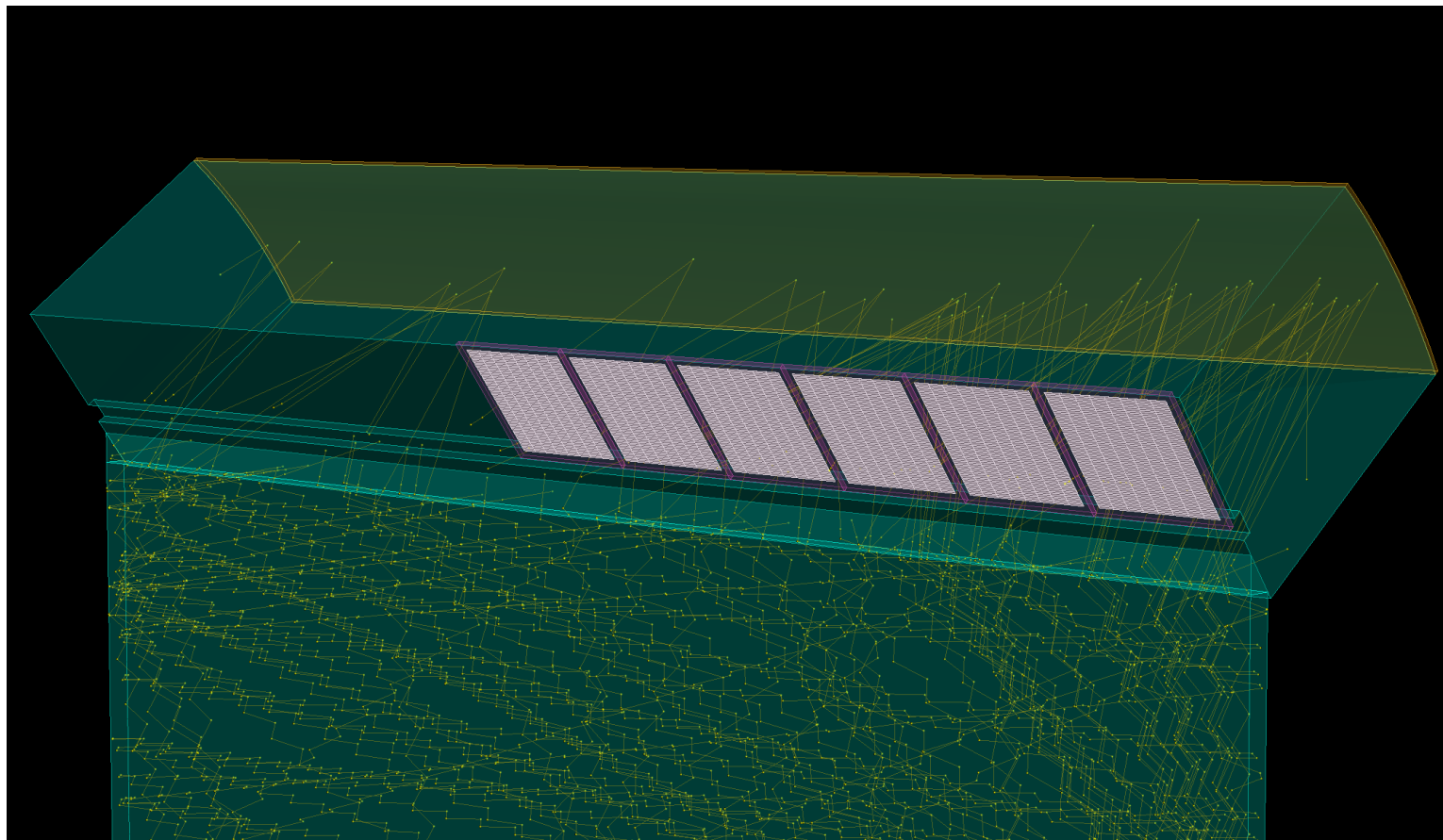
Roman Dzhygadlo

TORCH sim/reco  
meeting 20.02.25

- initial implementation
- hit pattern
- hit multiplicity

# Geometry

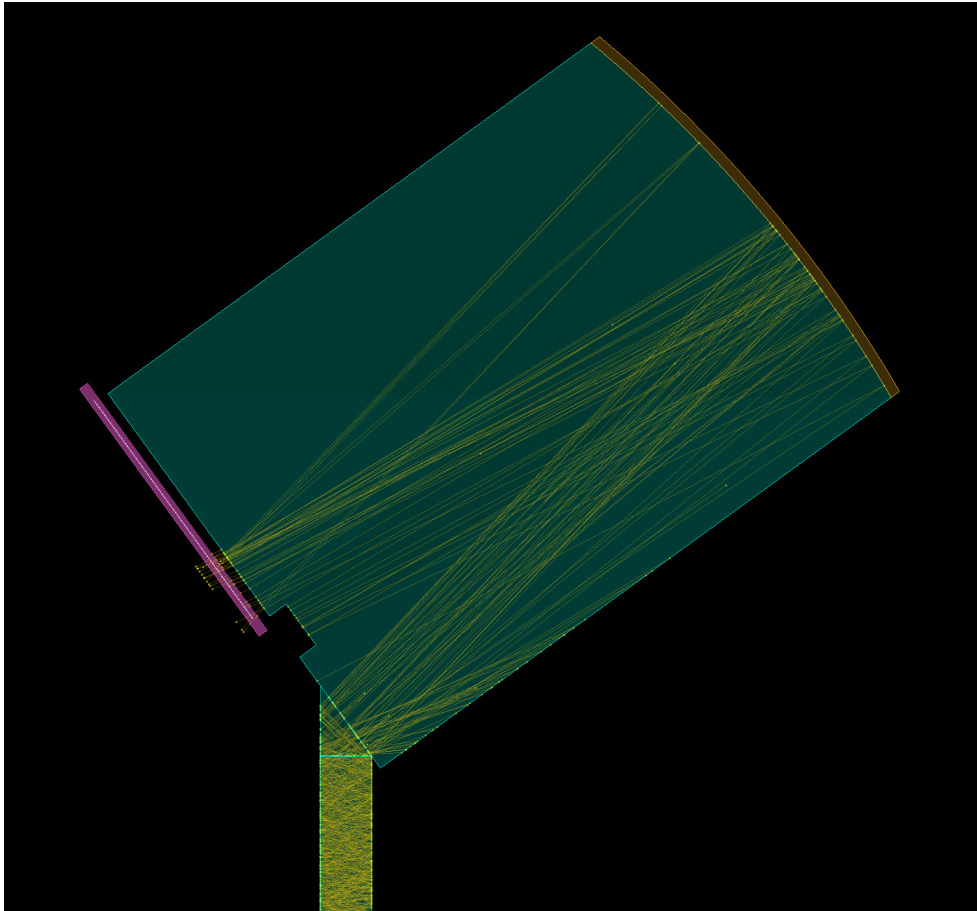
based on: [https://gitlab.cern.ch/TORCH/Stand-alone\\_Simulation/-/tree/Martin\\_cleanup/TORCH\\_drawings](https://gitlab.cern.ch/TORCH/Stand-alone_Simulation/-/tree/Martin_cleanup/TORCH_drawings)



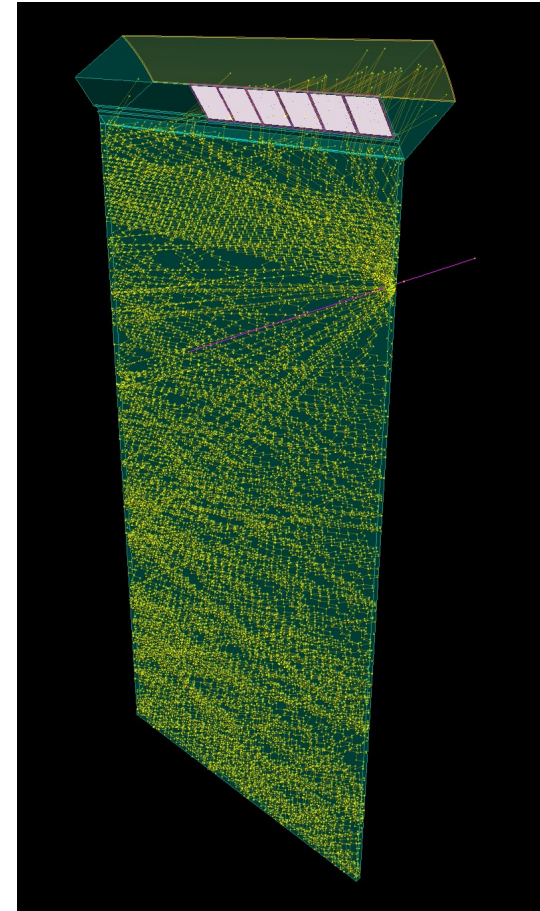
- 660 x 1250 x 10 plate
- 6 PMTs (8x64)

# Geometry

focusing block



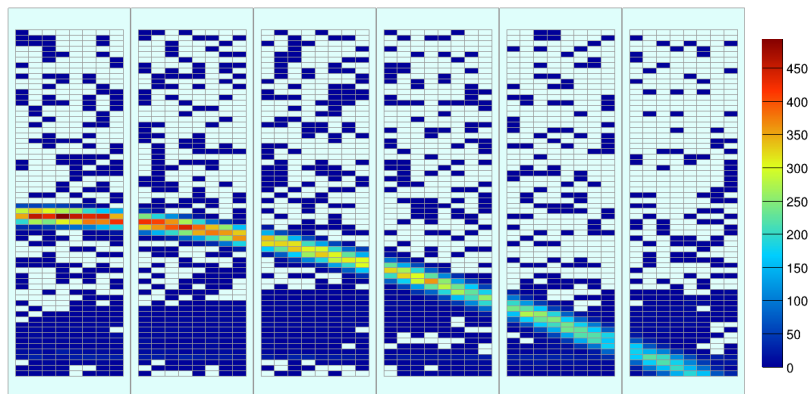
hitting pos#1 with 1 pion



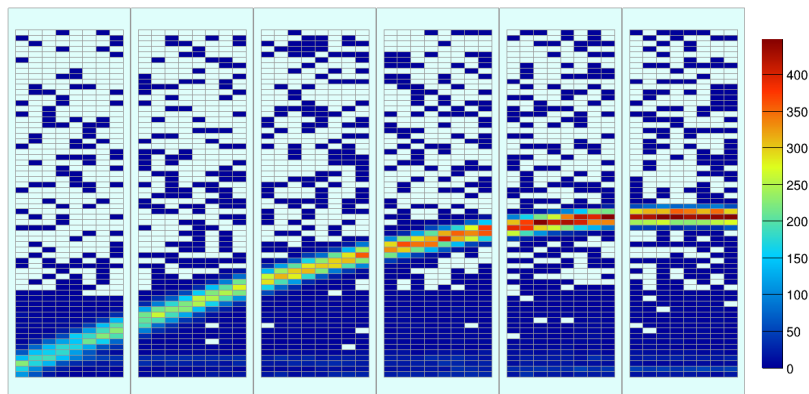
# Hit Pattern

simulation

pos #1

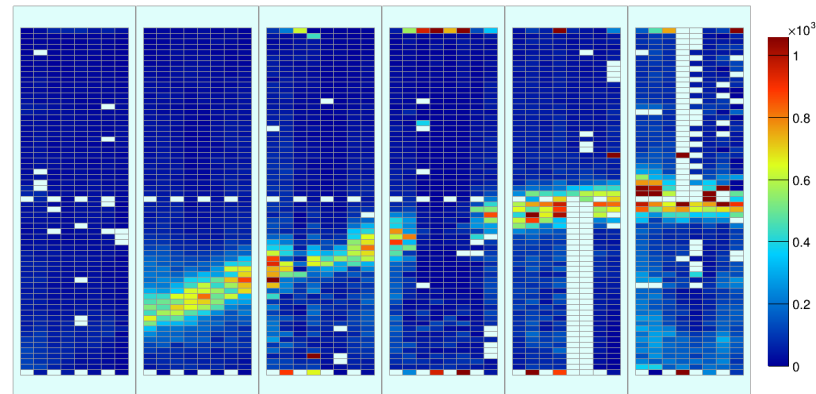
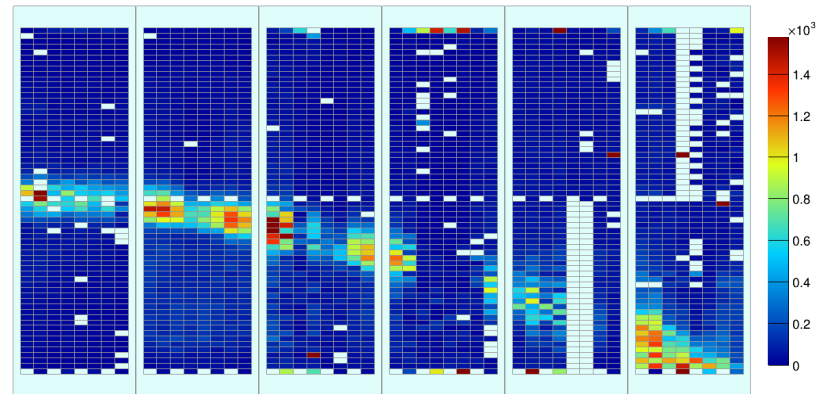


pos #8



beam data

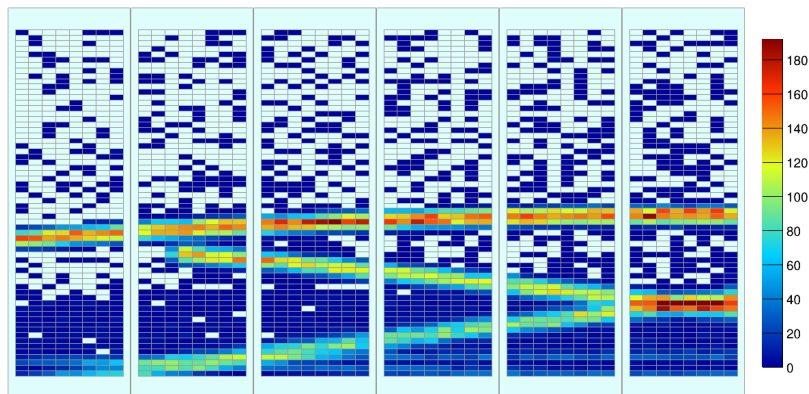
$\pi/p$  @ 8 GeV/c



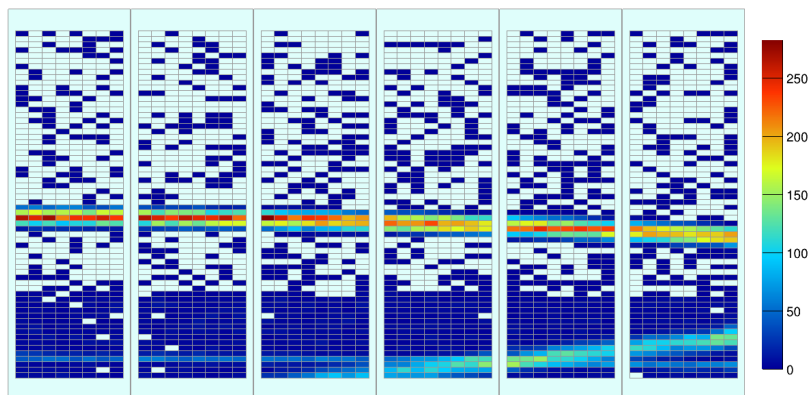
# Hit Pattern

simulation

pos #10

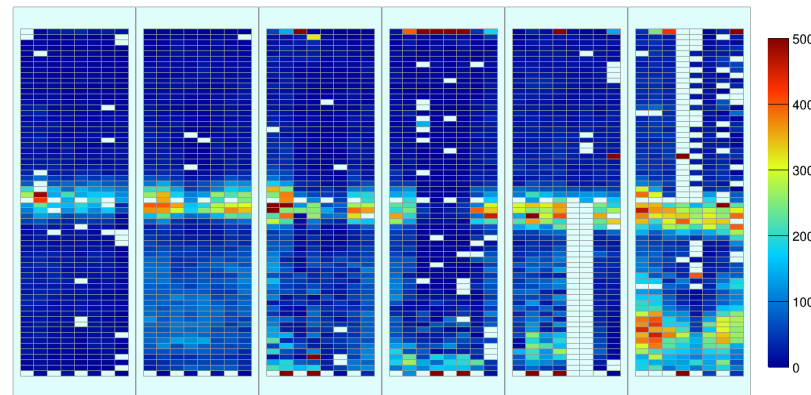
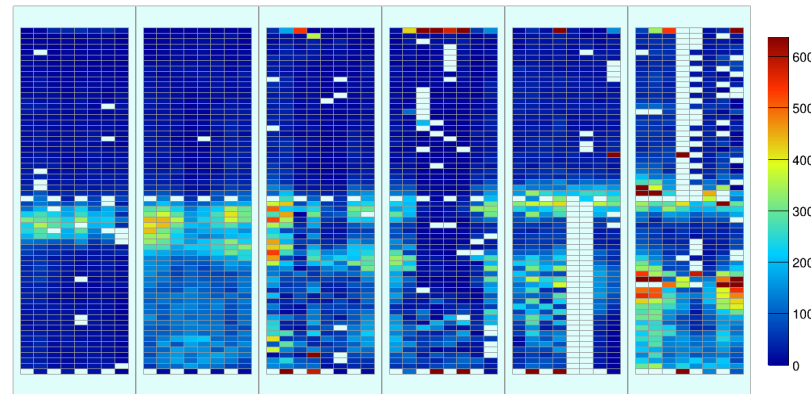


pos #12



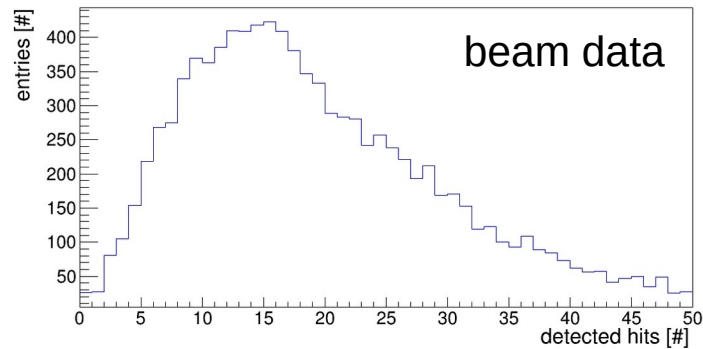
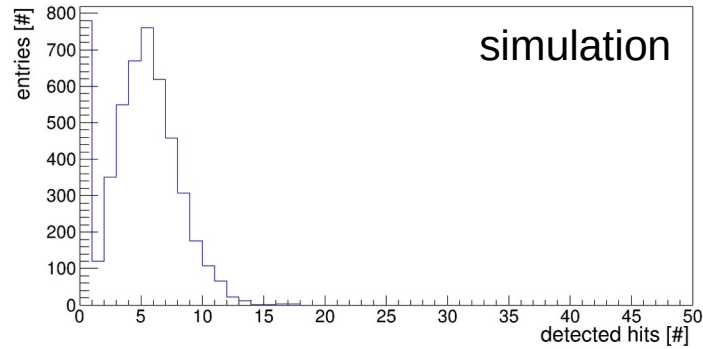
beam data

$\pi/p$  @ 8 GeV/c



# Photon Multiplicity

run520, pos #12



- raw data
- without time cuts
- without clustering

# Next

- Compare photon yield under different conditions (surface parameters, transport eff, etc)
- Compare propagation time
- Time imaging reconstruction

# Code

<https://gitlab.cern.ch/TORCH/prttorch>