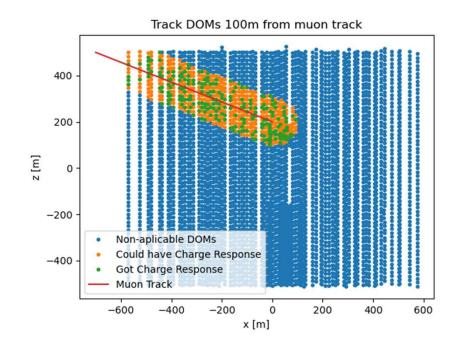
# RIDE Update - 09/04/2021

Sofus Stray
Weekly NBI Meeting

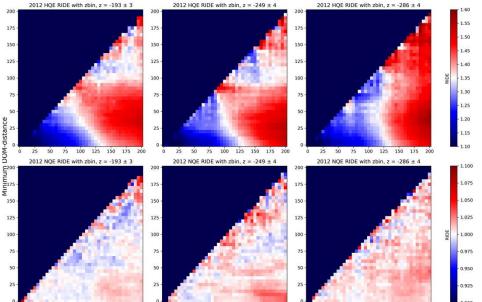
## Refresher

- Group Analysis
  - Scan over zenith angle and distance from DOM to track
  - See which combination provides RIDE = 1.35
- TCN
  - Neural Network
  - Try to predict if a muon stops inside detector

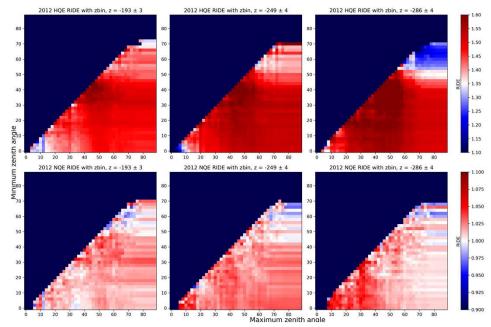


## Current group analysis (2012)

# DOM-distance scan (full zenith range)



## Zenith-angle scan (DOM-distance = [0,200]

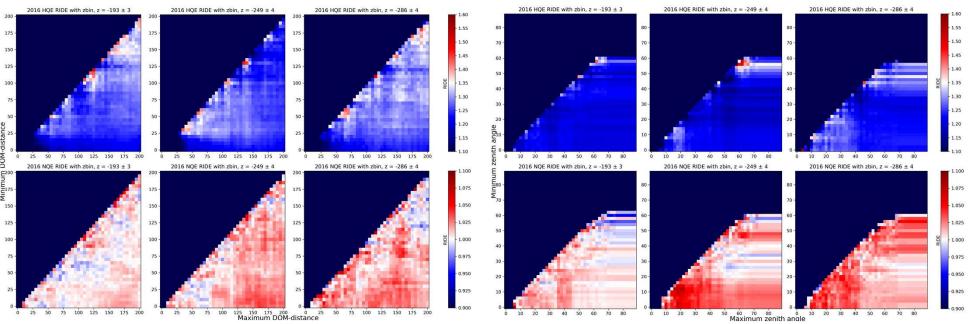


- Very clear point of interest in DOM-scan
- No reason to do any zenith cuts based on data
  - NQE values very noisy but within ~5% error

## Current group analysis (2016)

## **DOM-distance scan (full zenith** range)

## **Zenith-angle scan (DOM-distance =** [0,200]



- No longer any clear DOM-distance RIDE = 1.35line
  - Possible ~1.30 near [30,125]m
  - Zenith cut predictions similar

## TCN Update



2012 ©

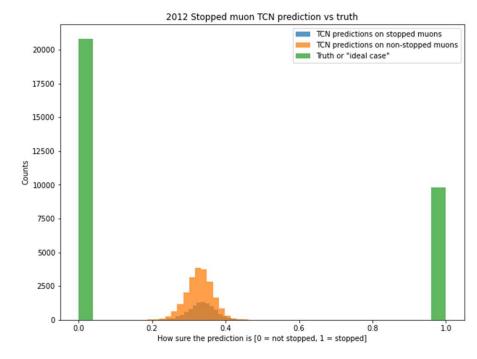
4000

2000

# 2012 Stopped muon TCN prediction vs truth TCN predictions on stopped muons TCN predictions on non-stopped muons Truth or "ideal case" 8000 -

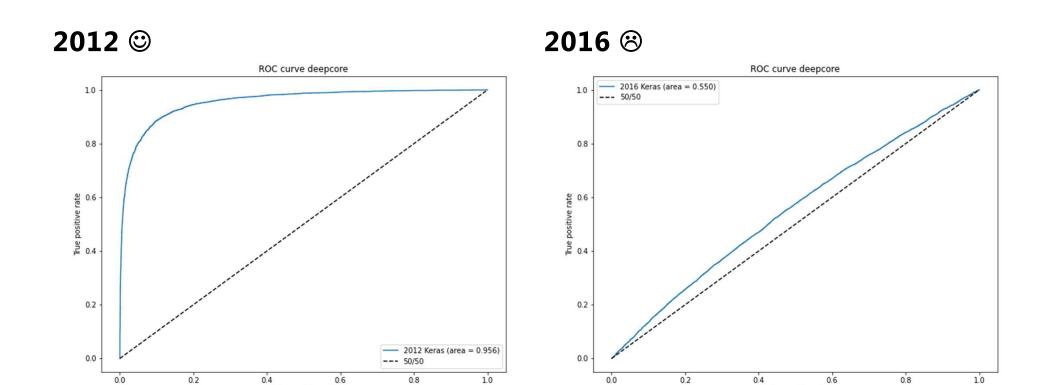
How sure the prediction is [0 = not stopped, 1 = stopped]

### **2016** ⊗

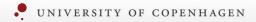


## TCN Update

False positive rate



False positive rate



## Summary & Next steps

- As mentioned earlier, stop chasing 1.35 for 2016
- TCN currently at standstill