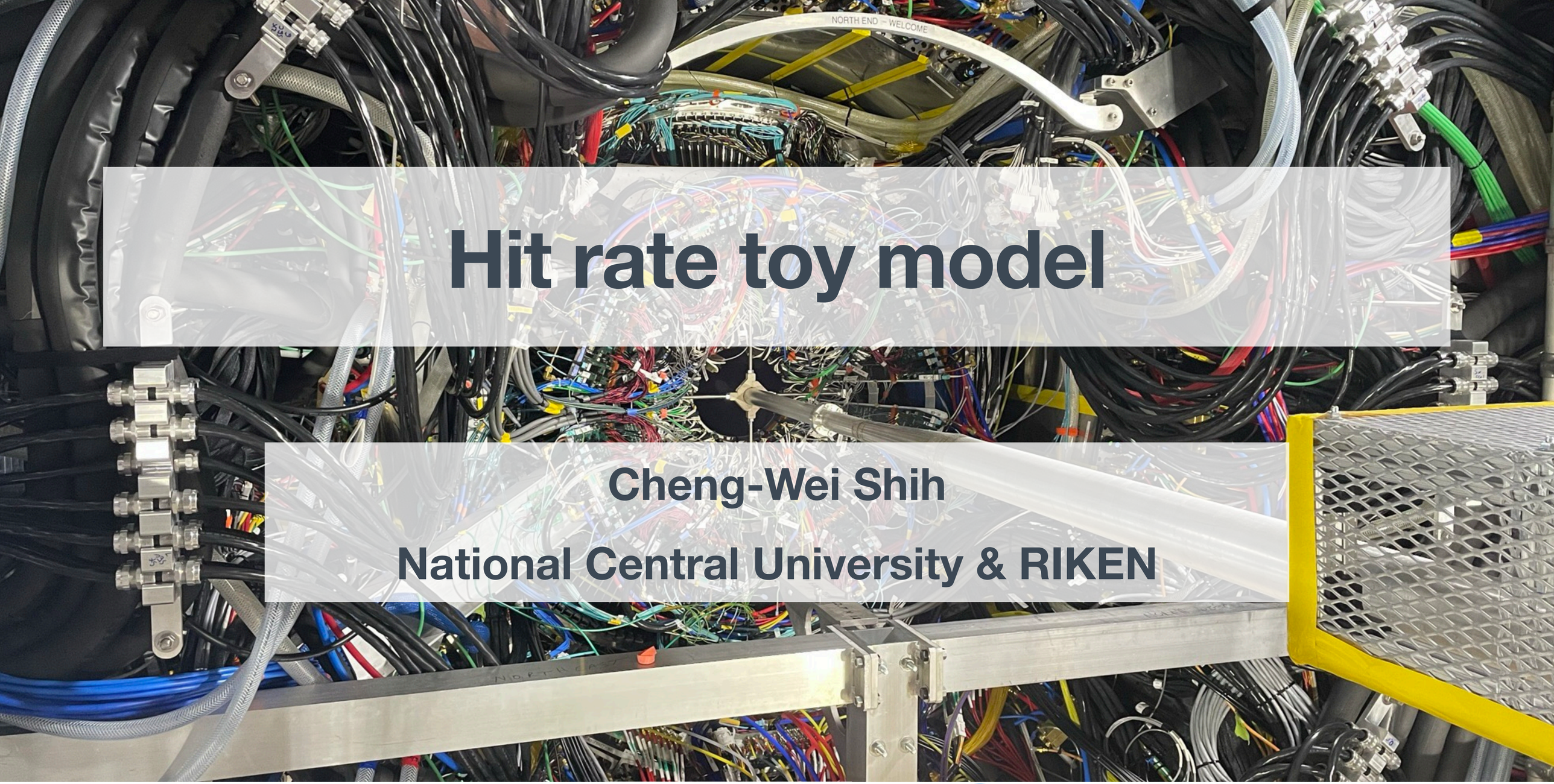


Hit rate toy model

Cheng-Wei Shih

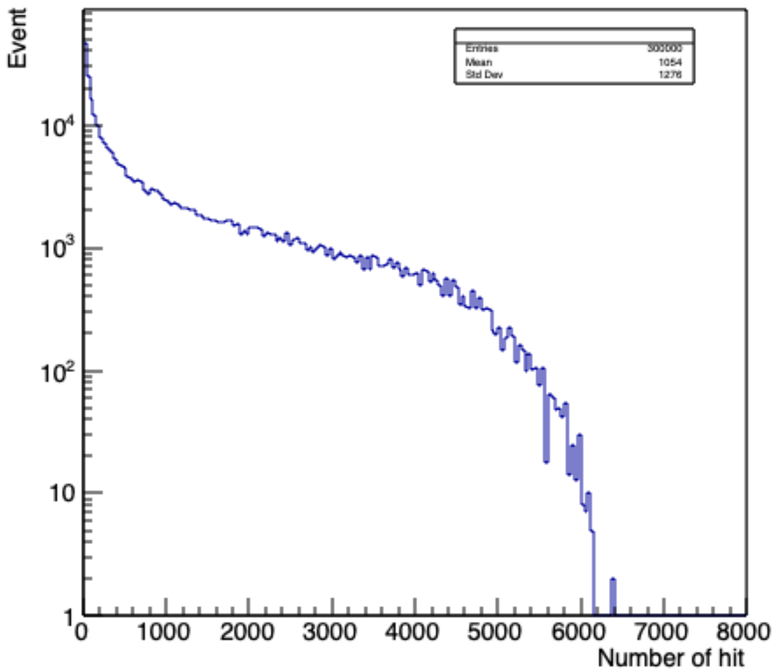
National Central University & RIKEN

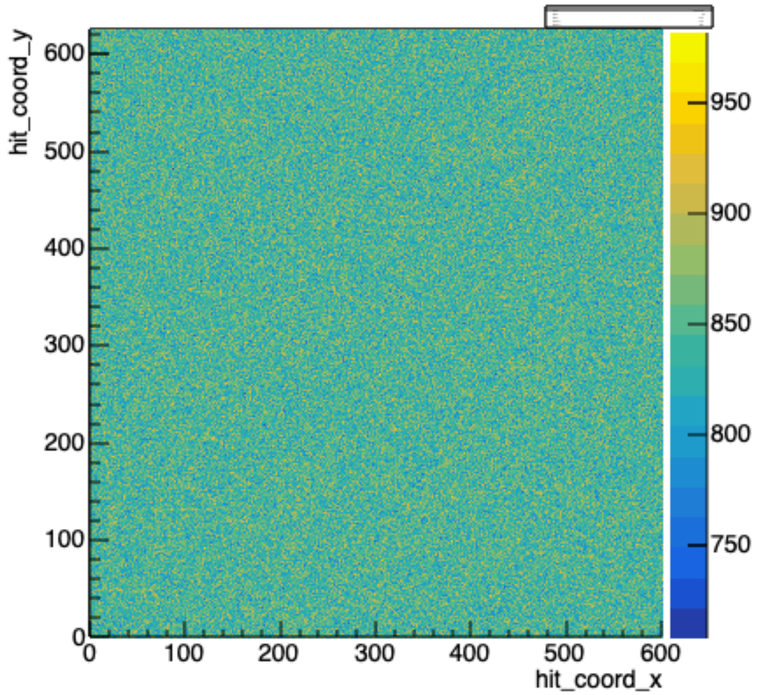
July 1st, 2024
INTT meeting

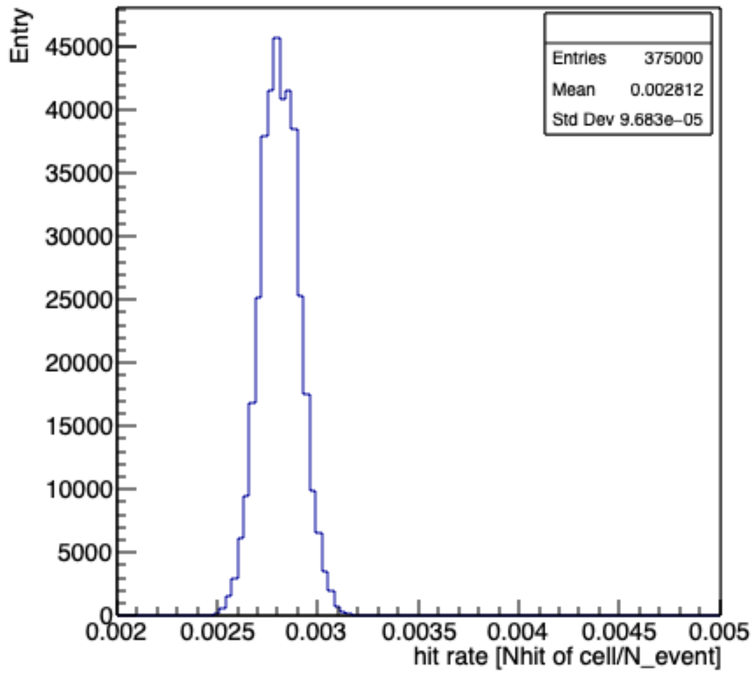
sPHENIX INTT sPHENIX 國立中央大學 National Central University RIKEN

The hit rate distribution

Number of events: 300k
Distribution of number of hits given by the AuAu MC
Assuming the fired hits are uniformly randomly distributed
Hit rate: number of hits of each cell / number of events



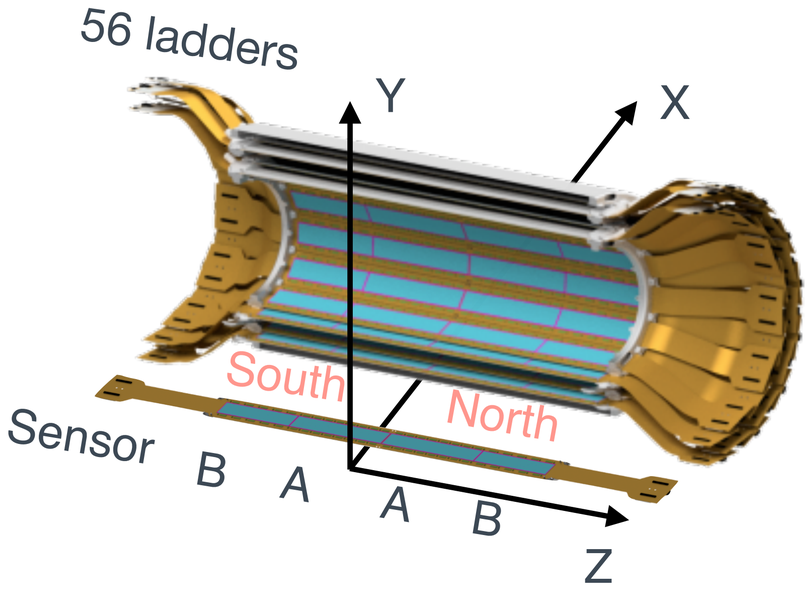




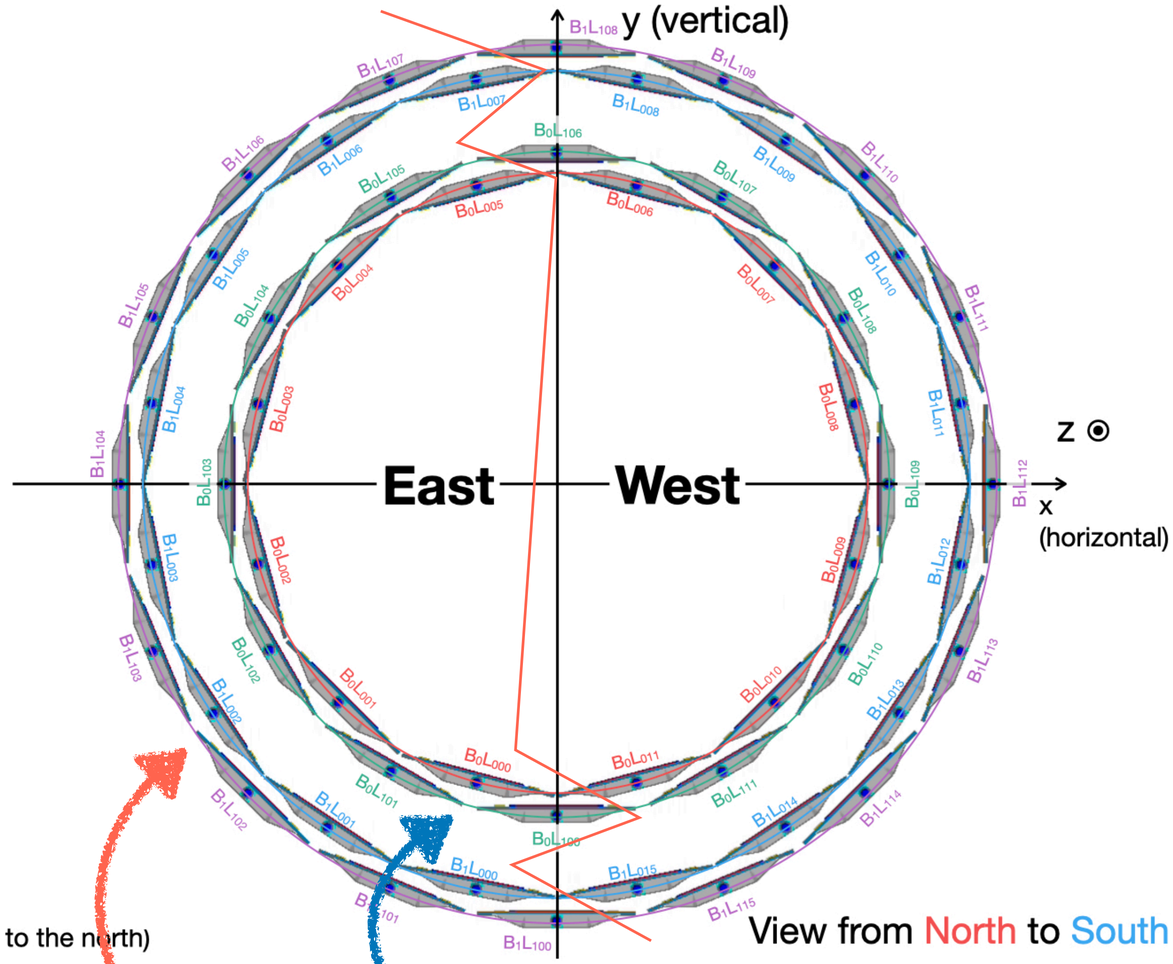
Back up

INTT geometry

INTT: 2 sensors X 2 sides of half-ladders X 56 ladders = 224 sensors



Notation: B_xL_{yzz}
- x: Barrel ID (0 for inner or 1 for outer)
- y: Layer ID (0 for inner or 1 for outer)
- zz: Ladder ID (from 0 to 15)



Axis (Right-haded coordinate)
- x-axis: $\vec{y} \times \vec{z}$
- y-axis: Vertically upward direction
- z-axis: The blue beam direction (pointing to the north)