

# Event Monitor and Display for Muon Tomography Station

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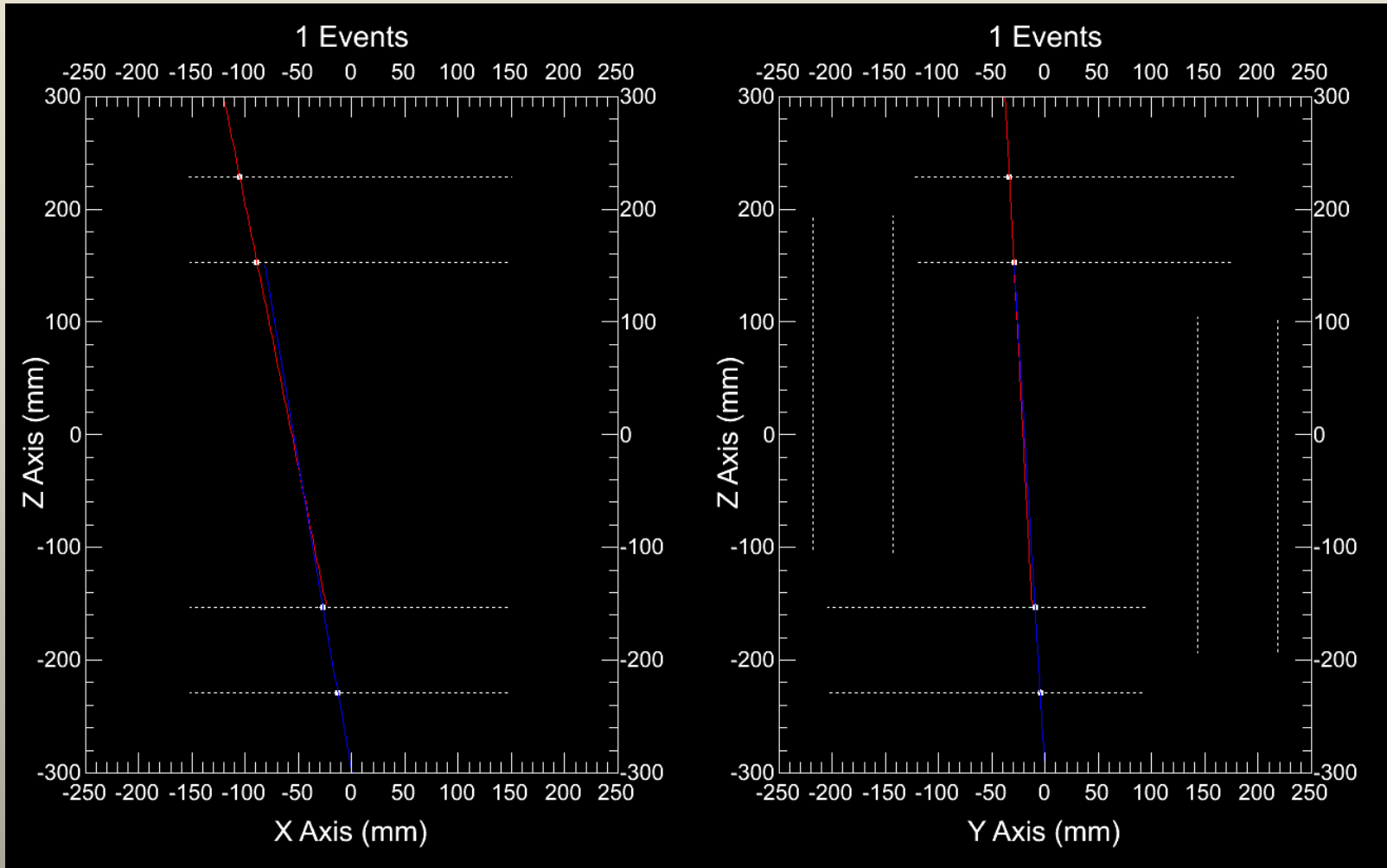
# Presentation Overview

- Research Motivation
- Event Display
- Theory
- Application: Coverage Distribution
- Event Monitor
- Live Event Monitor and Display

# Research Motivation

- Makes research and analysis more approachable
- Sanity check for validity of results and station configuration
- Detector coverage
- Display incoming/outgoing path

# Single Muon Event



# 2d Projections of MTS

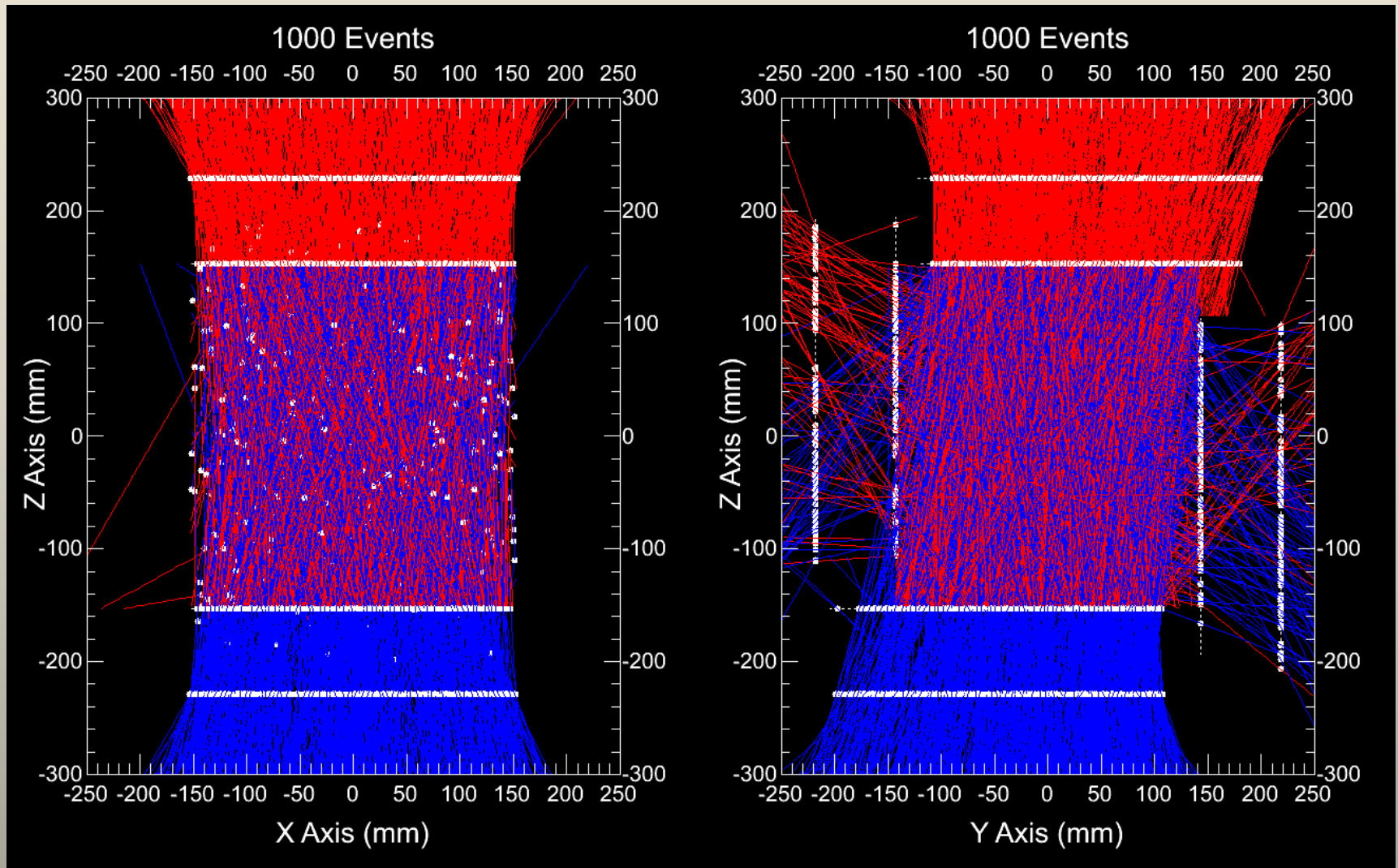


XZ Projection

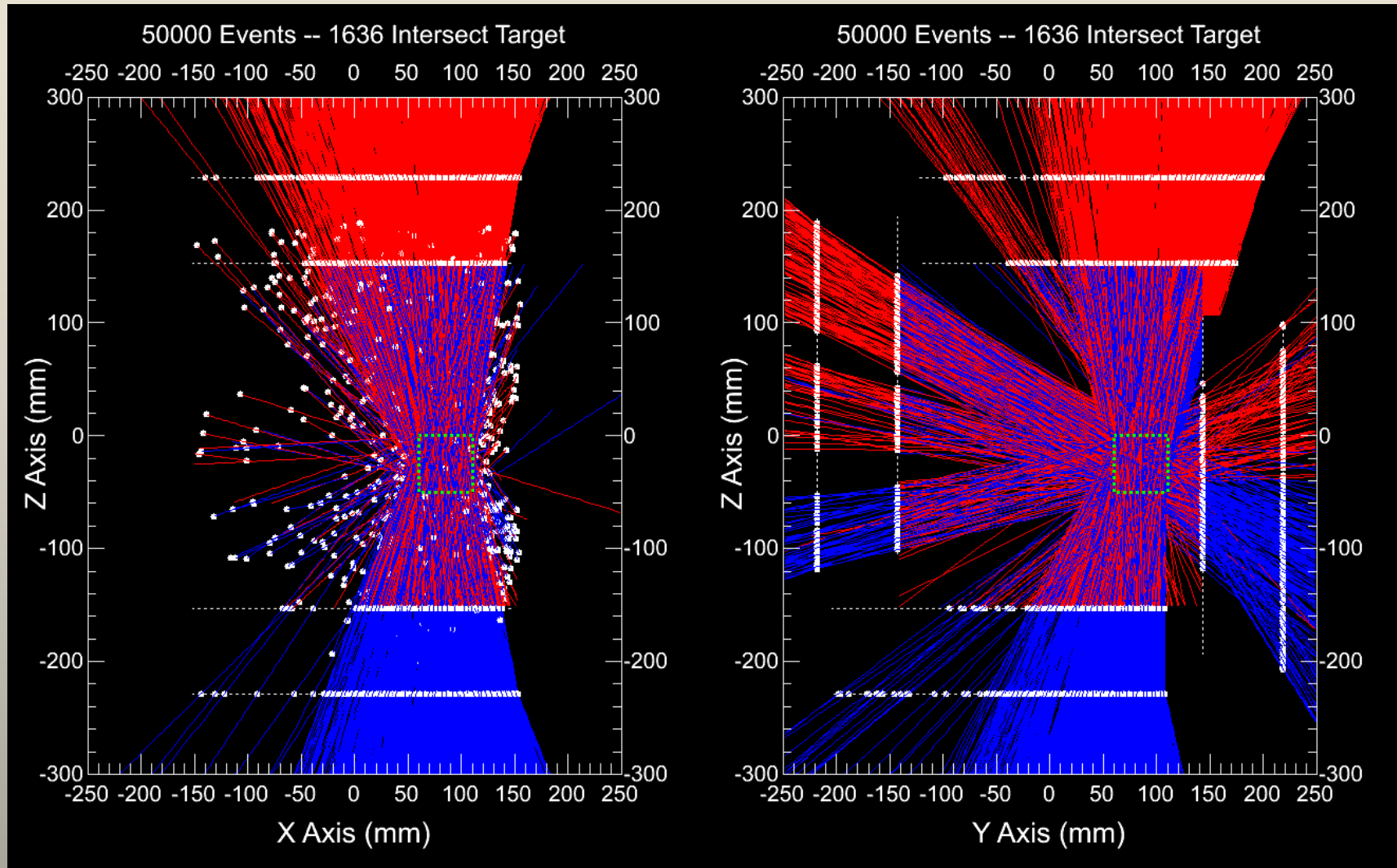


YZ Projection

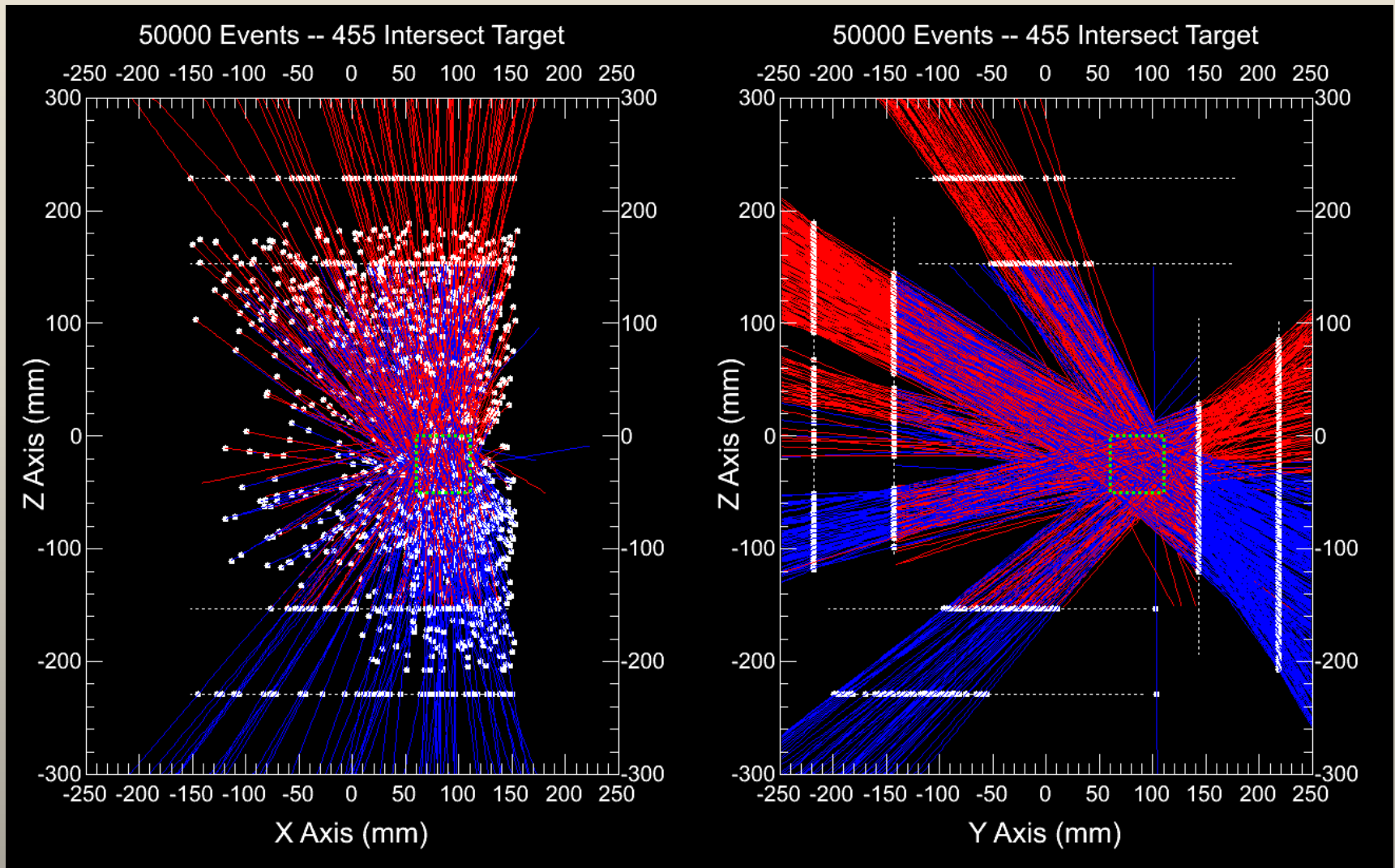
# 1000 Muon Events



# Coverage: Total Intersecting Events



# Coverage: Side Intersecting Events





# Coverage Distribution: 50,000 Events with a 50 mm<sup>3</sup> Target

Target Location	Total Intersecting Events	Side Intersecting Events
Top Left	1522	626
Top Center	2454	337
Top Right	1958	610
Middle Left	1192	300
Middle	3359	553
Middle Right	1659	455
Bottom Left	1471	340
Bottom Center	2446	285
Bottom Right	1777	470

# Event Display + DQM

- Near Real Time
- Dynamic live display and monitoring program
- User friendly GUI that automatically updates as data is processed

# Live Display Shell

