

COT Monte Carlo

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Simulation Meeting

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- Hit Resolutions
- Hit Widths
- Hit Efficiencies
- Parameter Resolutions
- Track Multiplicities

Hit Resolutions

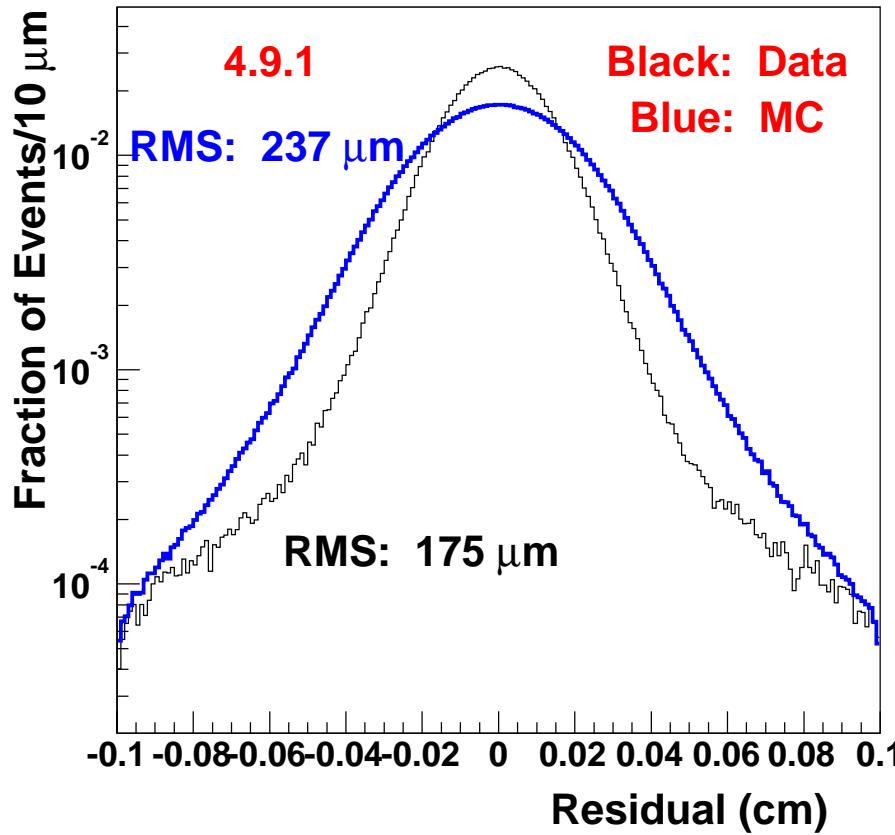


Figure 1: *The hit residual for $W \rightarrow \mu\nu$ events (data) and $Z \rightarrow \mu\mu$ events (Monte Carlo).*

Hit Resolutions

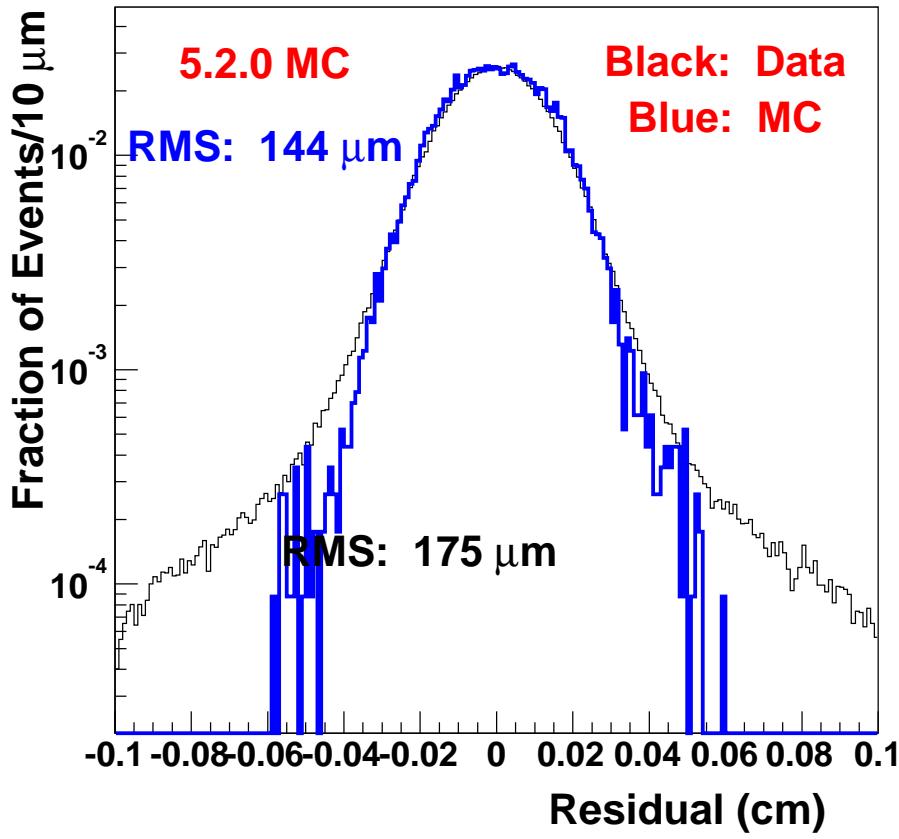


Figure 2: The hit residual for $W \rightarrow \mu\nu$ events (4.9.1 data) and $Z \rightarrow \mu\mu$ events (5.2.0 Monte Carlo).

Hit Widths

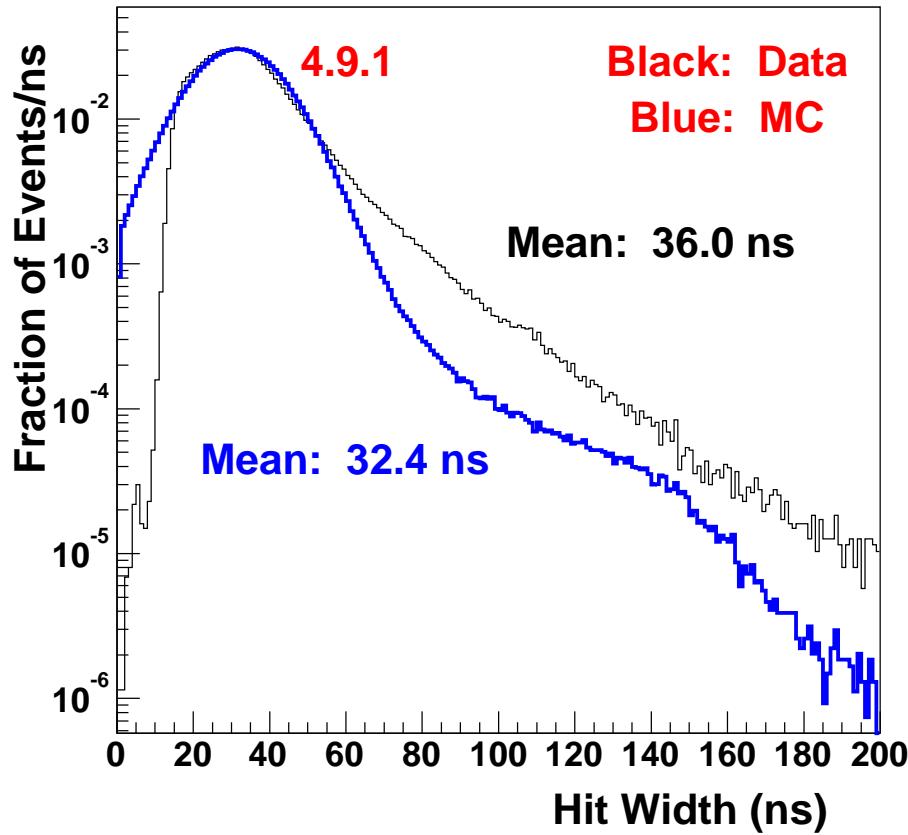


Figure 3: The hit width for $W \rightarrow \mu\nu$ events (data) and $Z \rightarrow \mu\mu$ events (Monte Carlo).

Hit Widths

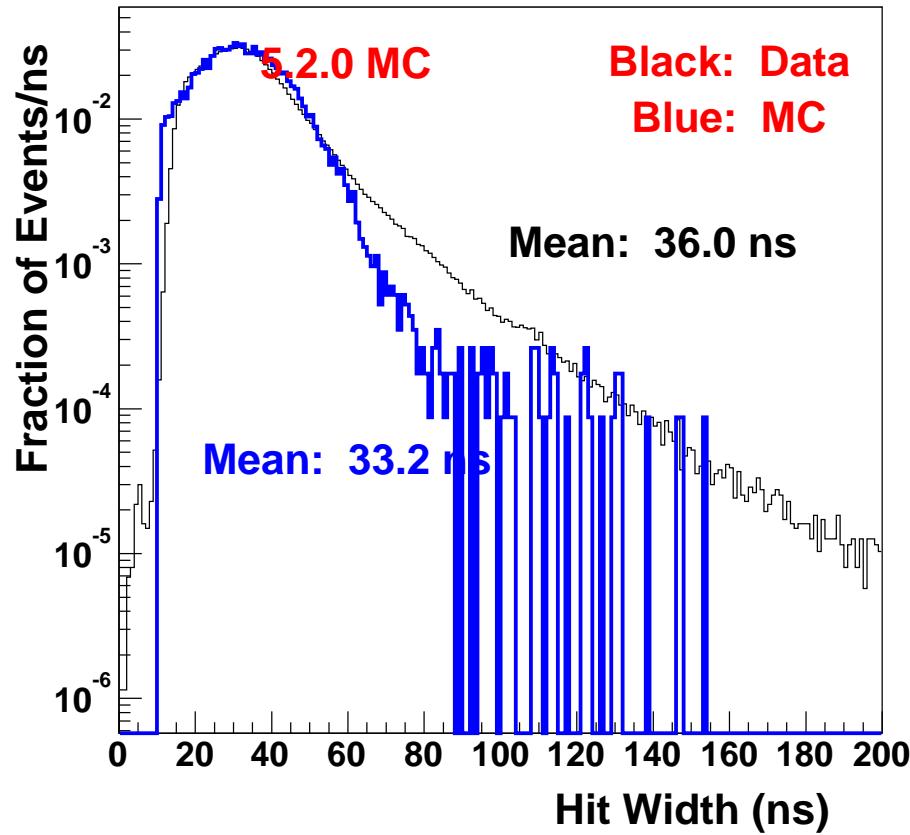


Figure 4: The hit width for $W \rightarrow \mu\nu$ events (4.9.1 data) and $Z \rightarrow \mu\mu$ events (5.2.0 Monte Carlo).

Hit Efficiencies

Plan:

- MC: Study with FakeEvent
- Data: Study with outgoing legs of beam-off cosmics

Parameter Resolutions

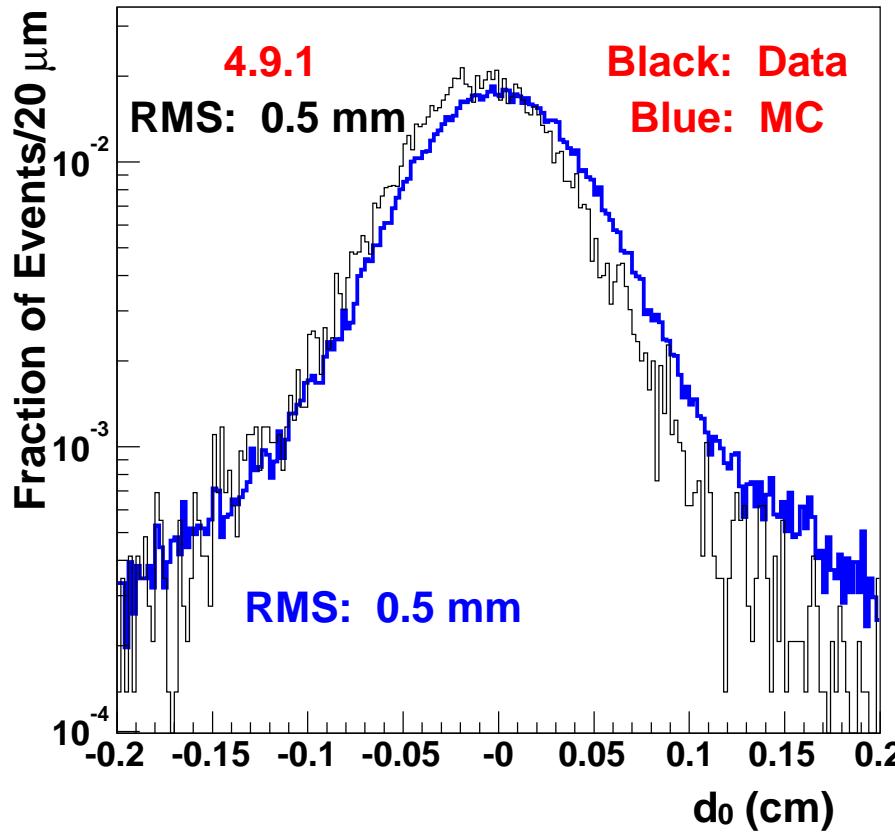


Figure 5: *The impact parameter for $W \rightarrow \mu\nu$ events in data (black) and Monte Carlo (blue).*

Parameter Resolutions

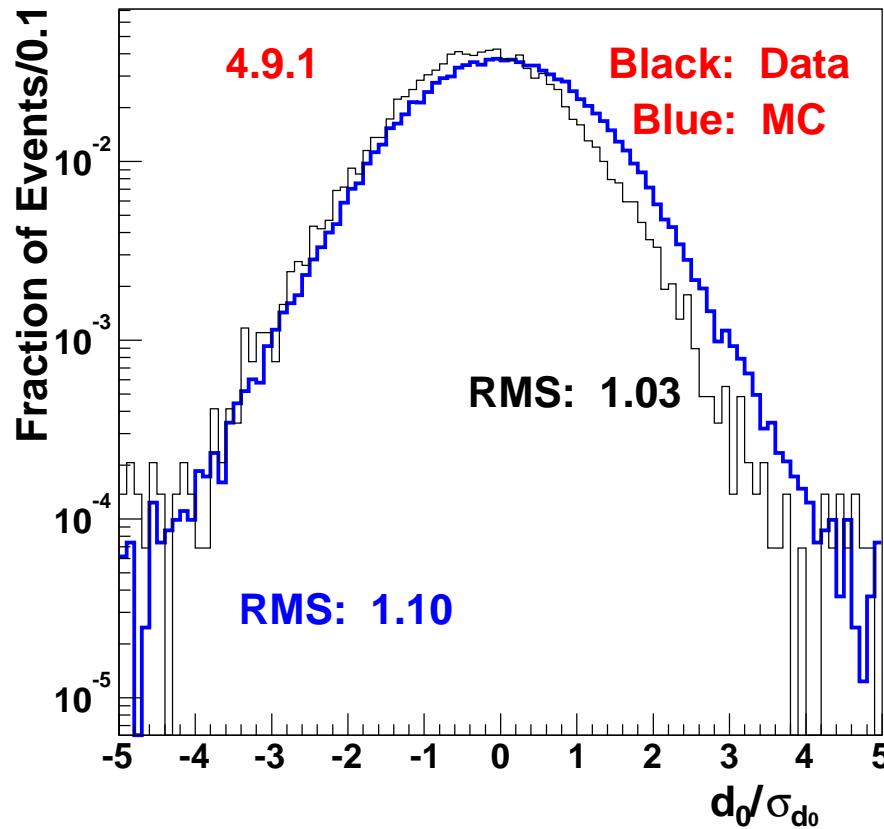


Figure 6: The impact parameter for $Z \rightarrow \mu\mu$ events in data (black) and Monte Carlo (blue).

Parameter Resolutions

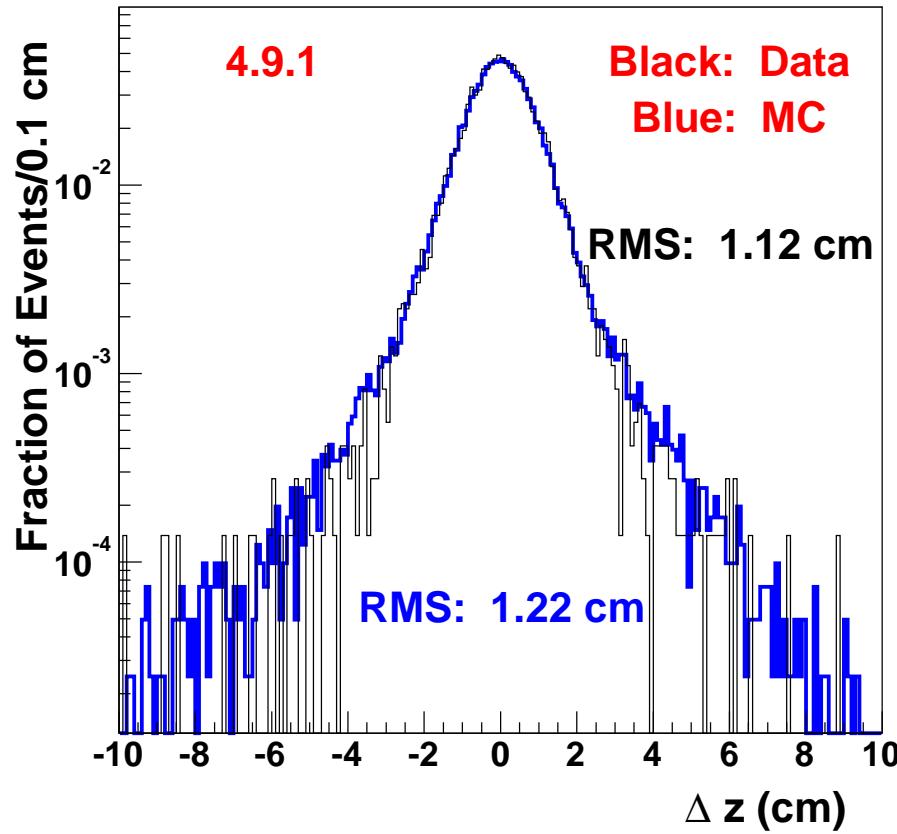


Figure 7: The impact parameter for $Z \rightarrow \mu\mu$ events in data (black) and Monte Carlo (blue).

Track Multiplicities

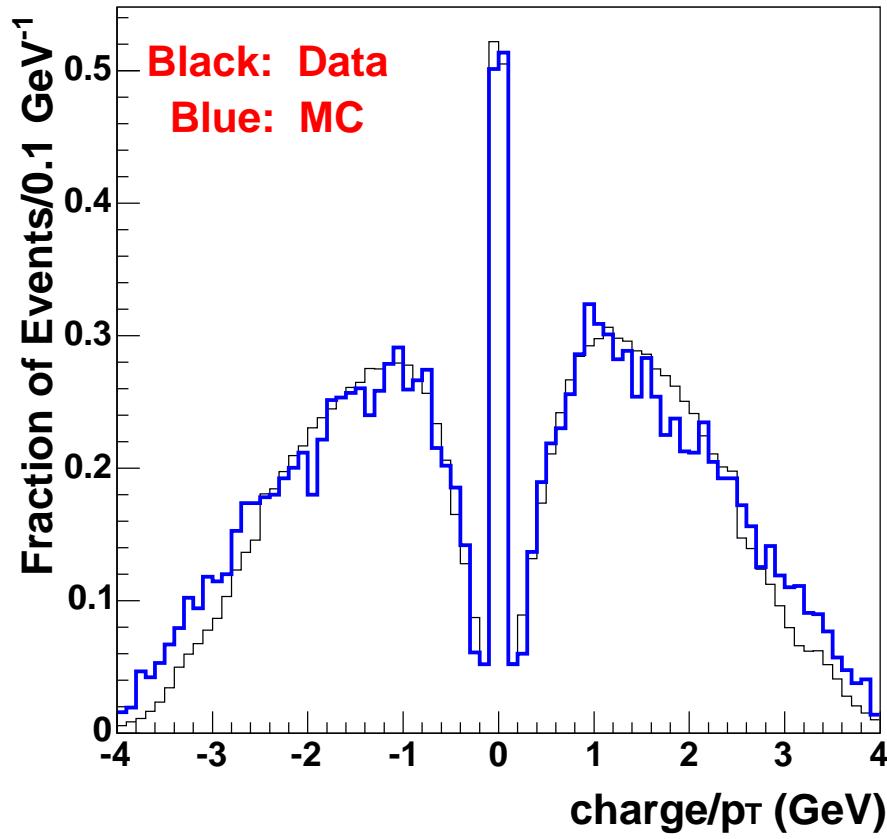


Figure 8: *The curvature of prompt tracks in $W \rightarrow \mu\nu$ events in data (black) and Monte Carlo (blue).*

Track Multiplicities

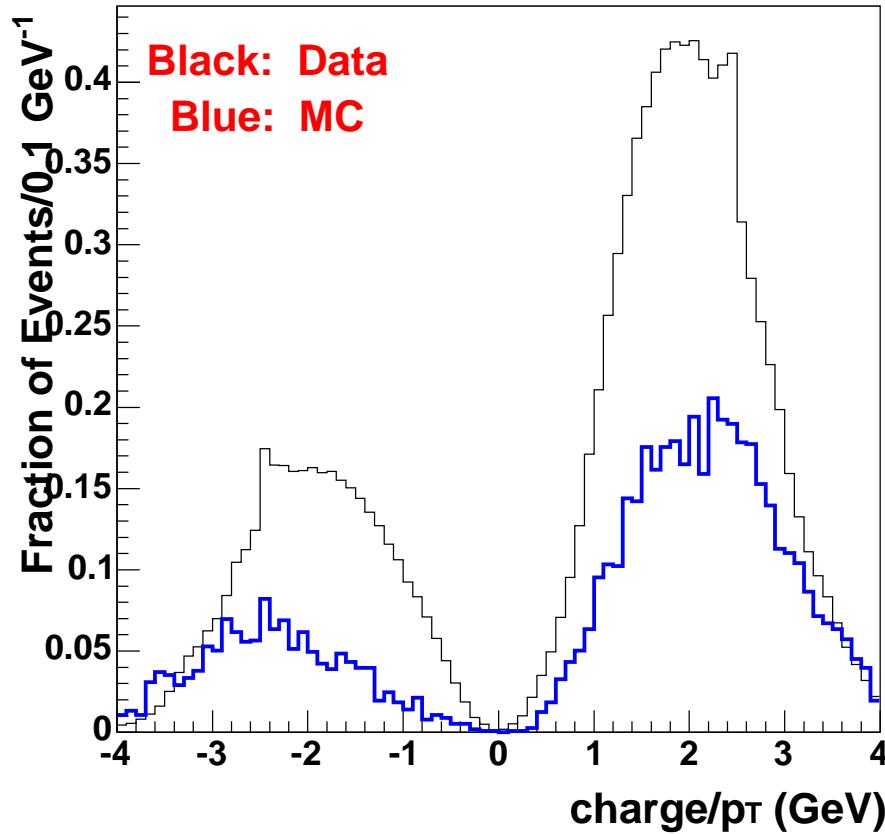


Figure 9: *The curvature of secondary tracks in $W \rightarrow \mu\nu$ events in data (black) and Monte Carlo (blue).*

Conclusions

Resolution, hit width improvements in 5.2.0

- Need 5.2.0 data to cross-check

Future Plans

- Incorporate hit efficiencies
- Add superlayer dependences