

Validation of Silicon Parametric Charge Deposition Model

Ashutosh Kotwal for Sebastian Carron

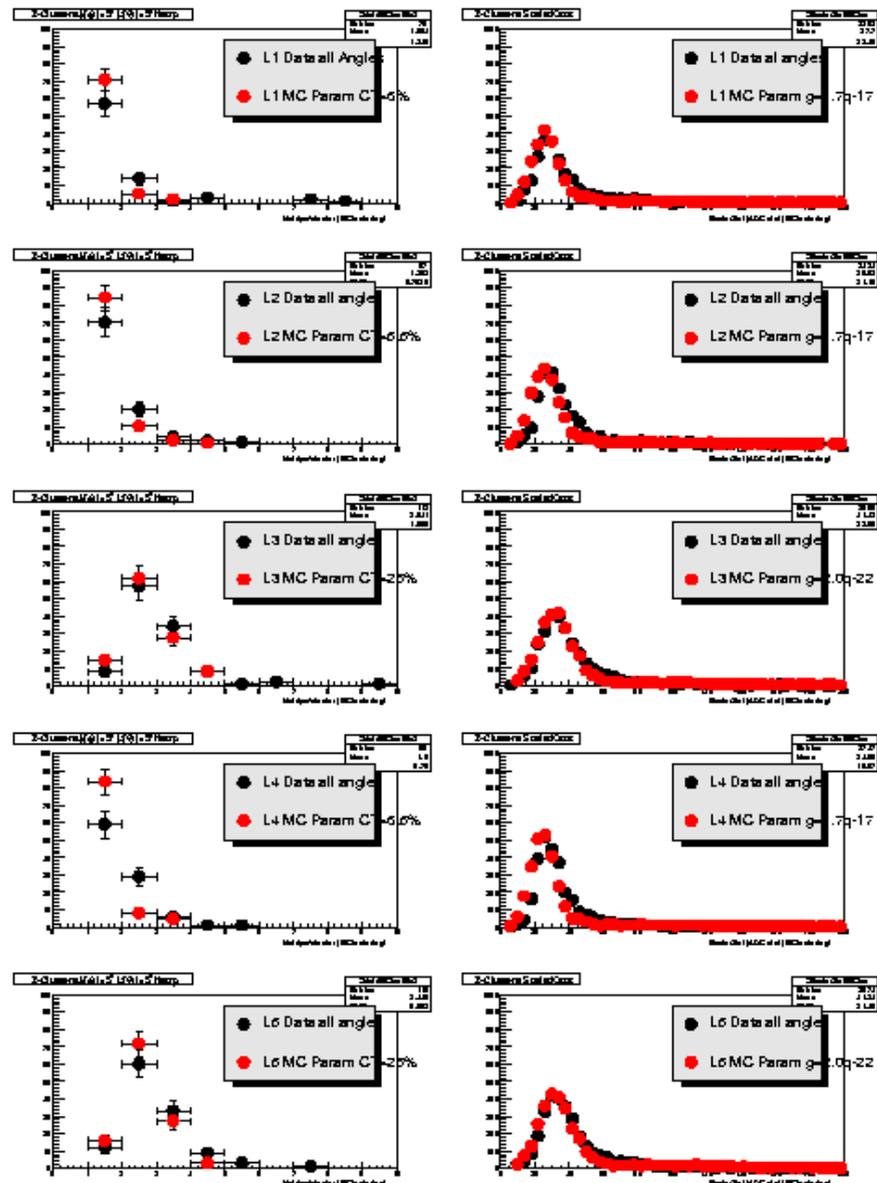
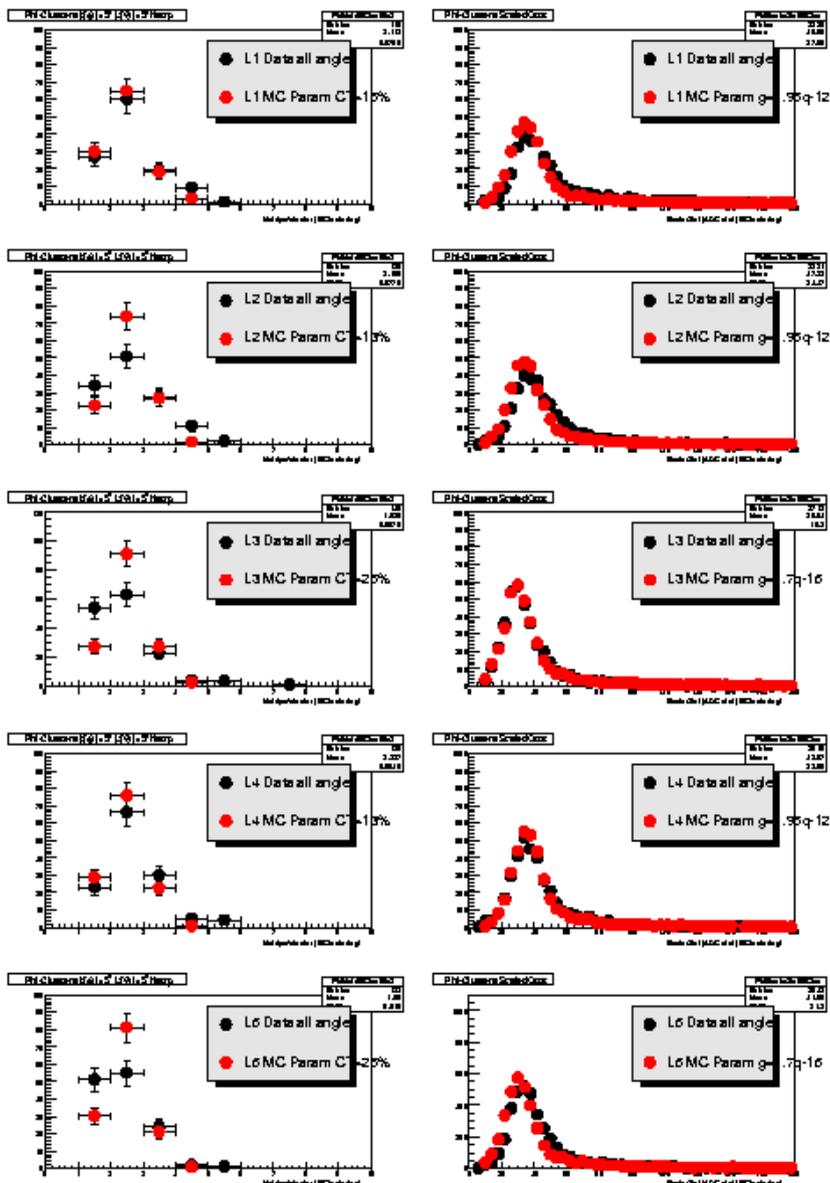
- Parametric CDM has been tuned and included in 5.x simulation release
- Plots shown today are from a release prior to 5.3.0, but Sebastian remade them recently in 5.3.0pre1 and confirmed by email that data/MC comparisons were as expected.
- Data = black, **simulation = red** on plots

SVXII ϕ side, L1 - 5

SVXII z side, L1 - 5

L1,L2,L3,L4,L5 Phi-Parametric Model-Latest Tuning

L1,L2,L3,L4,L5 Z-Tuning-Parametric Model-Last Iteration



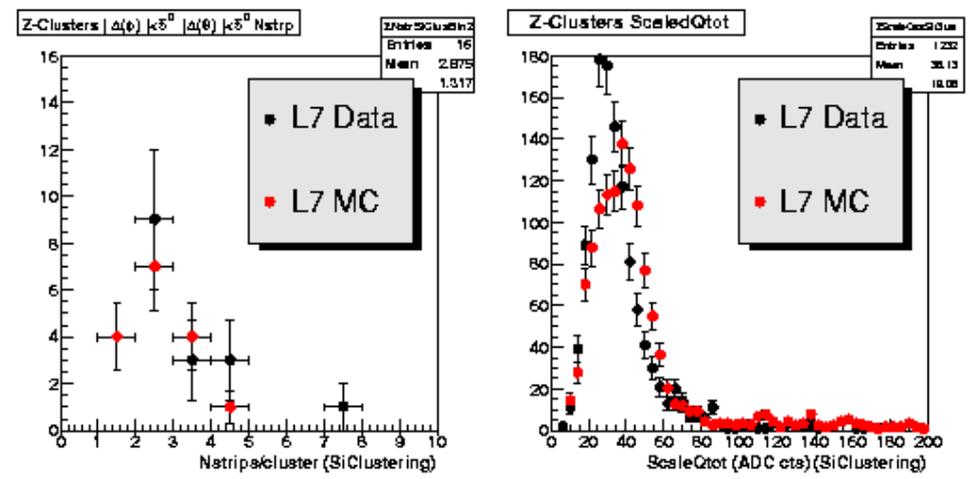
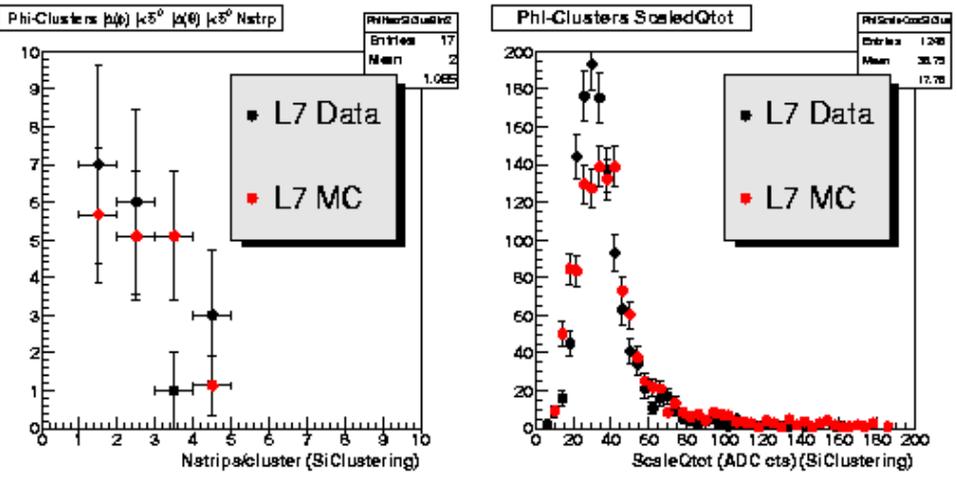
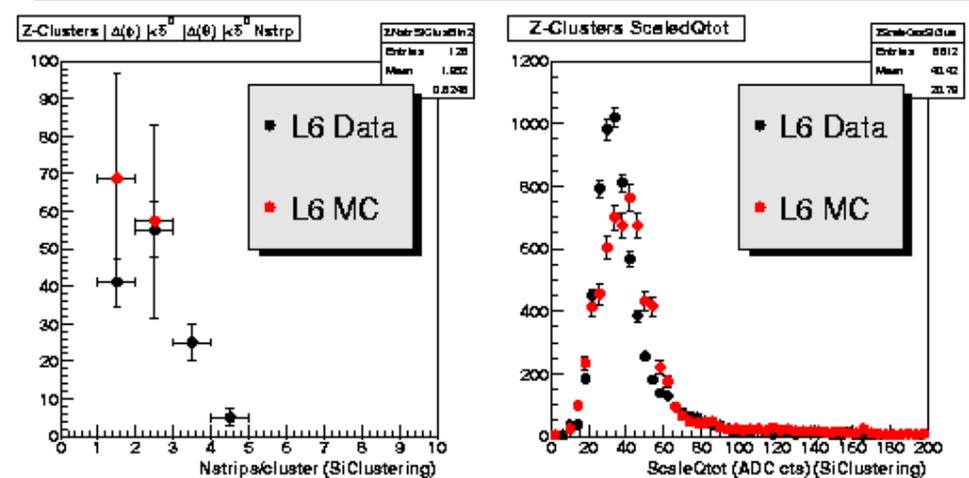
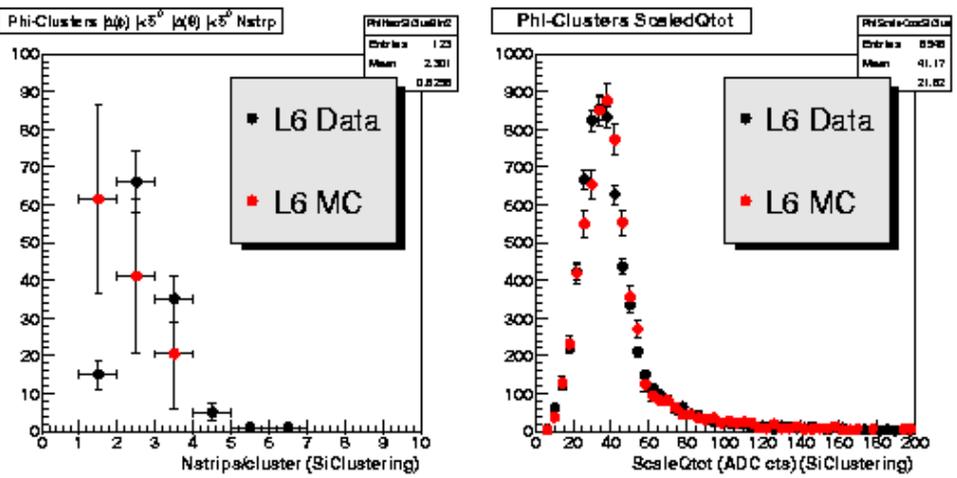
Each plot show number of strips per cluster (left) and total cluster charge (right)

ISL ϕ side

ISL z side

L6,L7 Phi-Parametric Model-Latest Tuning

L6,L7 Z-Tuning-Parametric Model-Last Iteration

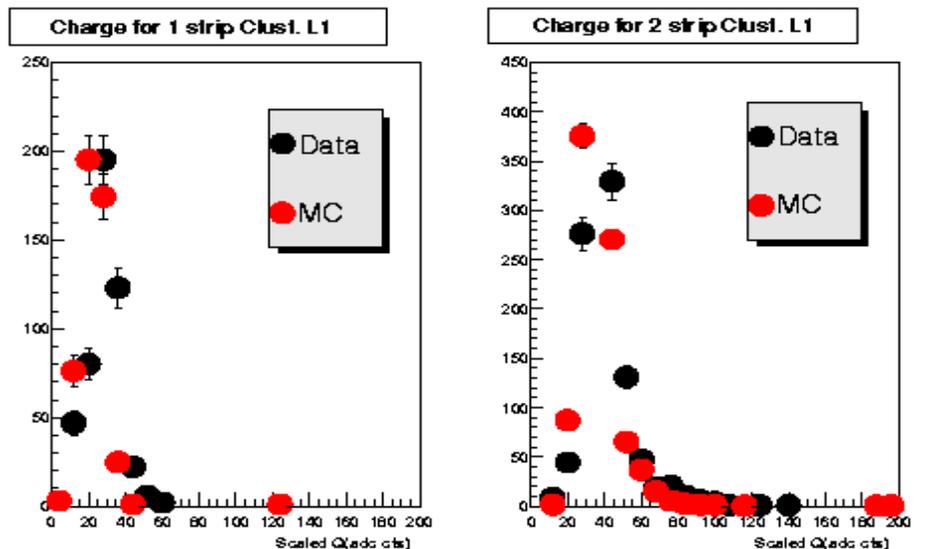


Each plot show number of strips per cluster (left) and total cluster charge (right)

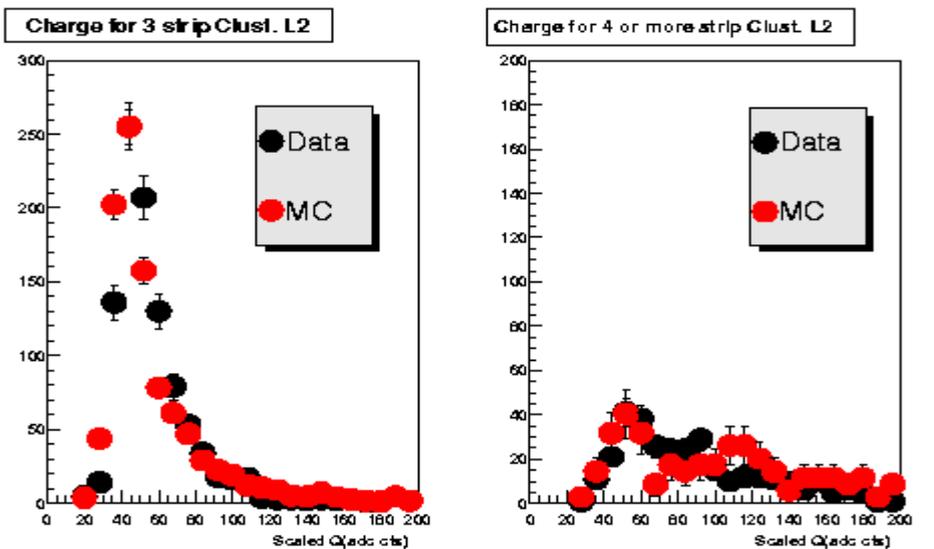
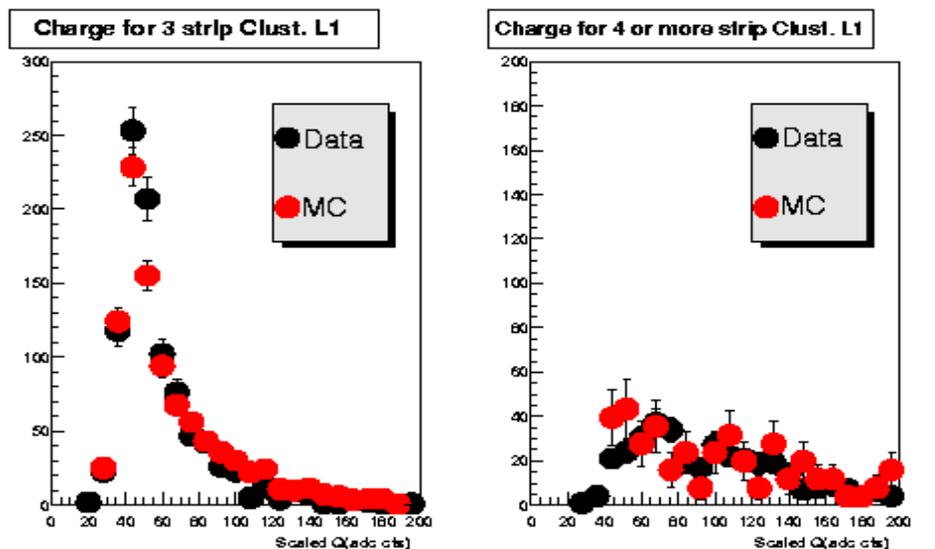
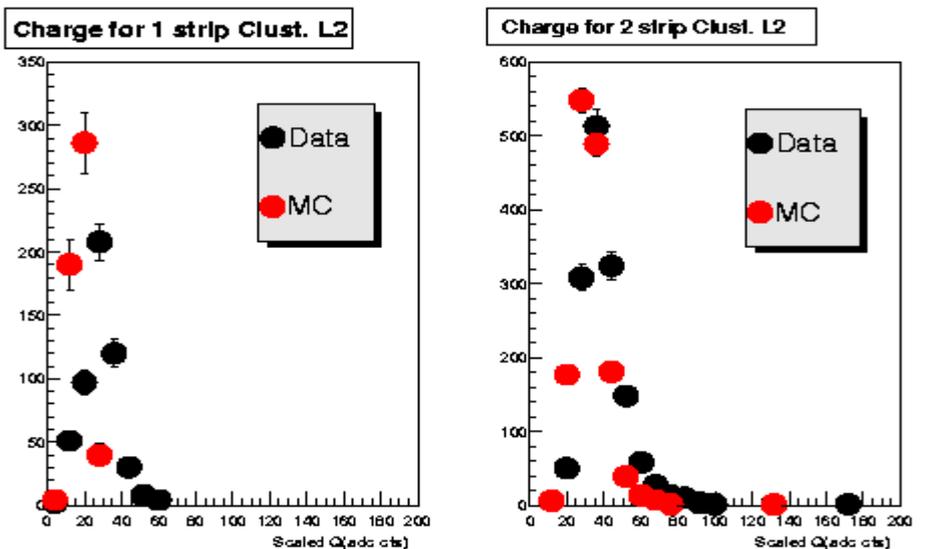
SVXII L1 ϕ side

SVXII L2 ϕ side

Phi Side-Parametric Model Charge Distributions



Phi Side-Parametric Model Charge Distributions

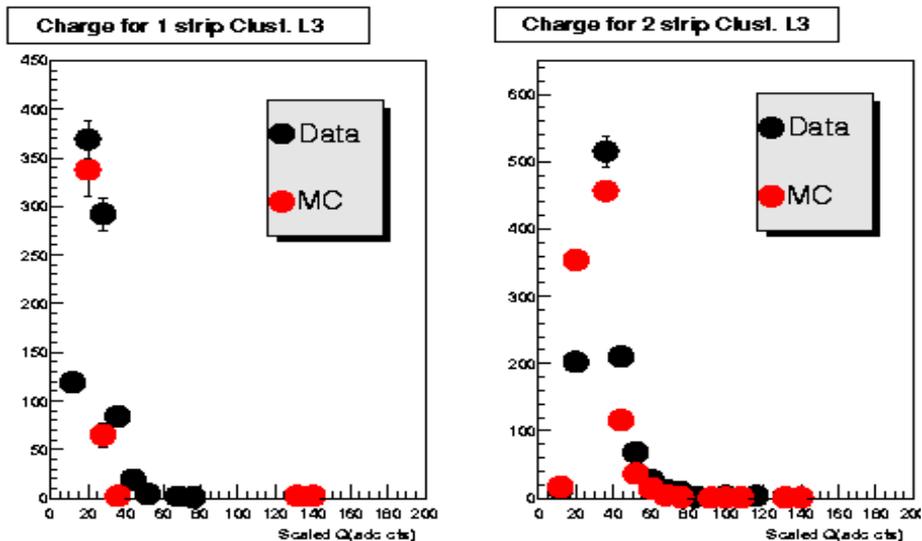


Plots show charge per cluster for 1...4 (top-left to bottom-right) strip clusters

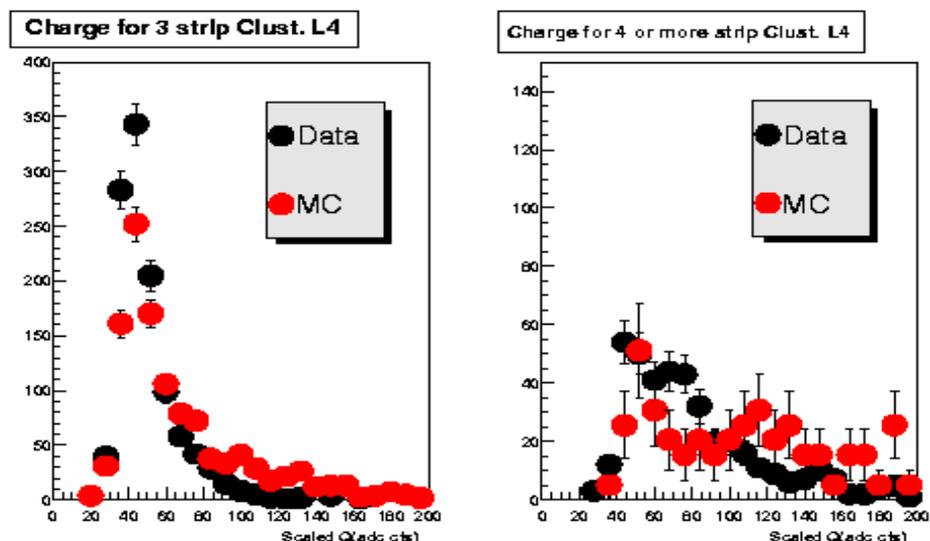
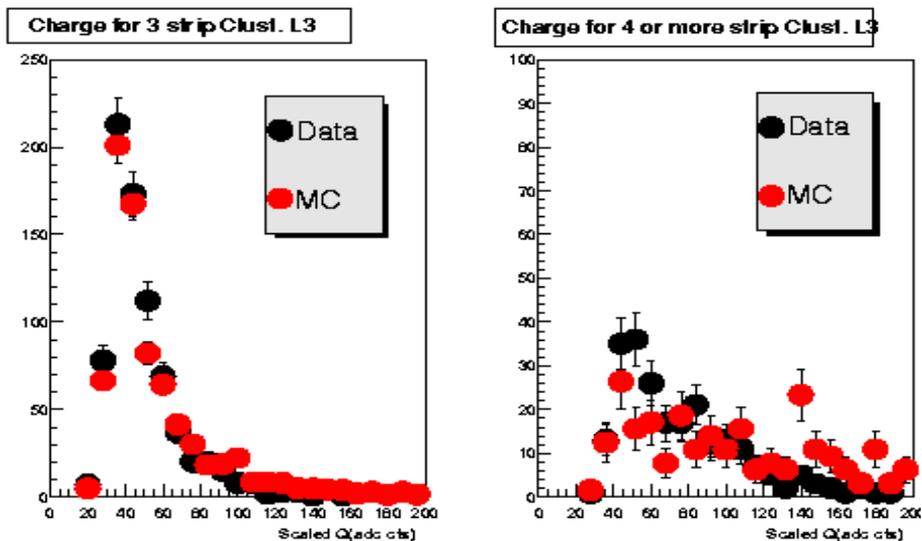
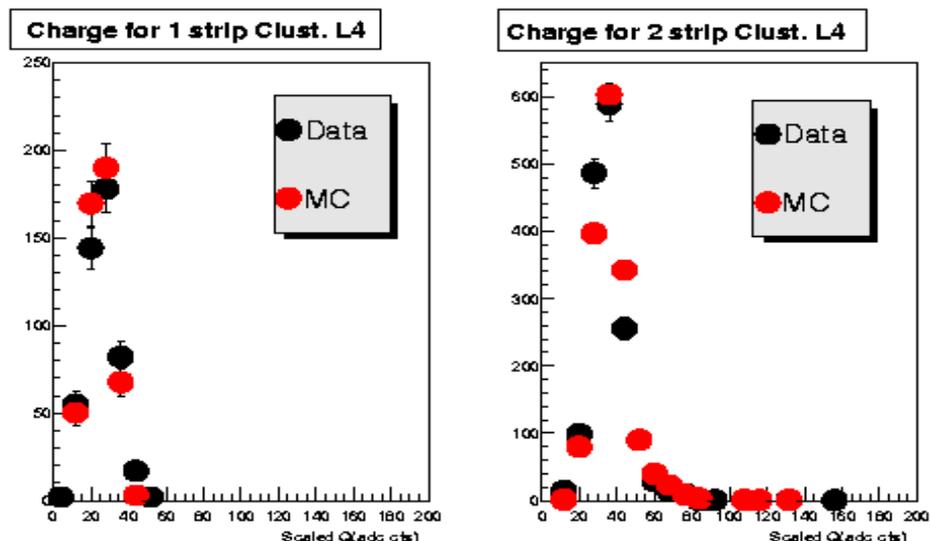
SVXII L3 ϕ side

SVXII L4 ϕ side

Phi Side-Parametric Model Charge Distributions



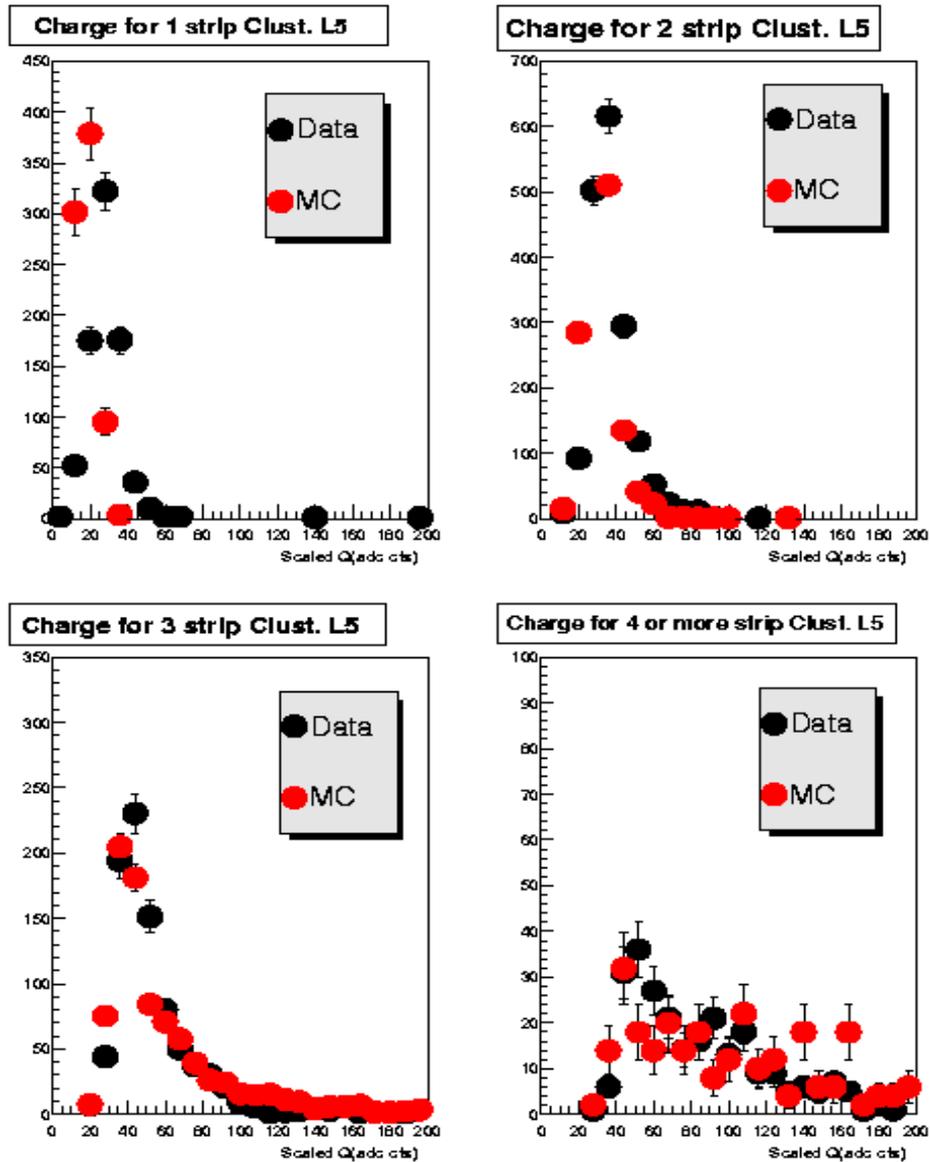
Phi Side-Parametric Model Charge Distributions



Plots show charge per cluster for 1...4 (top-left to bottom-right) strip clusters

SVXII L5 ϕ side

Phi Side-Parametric Model Charge Distributions



Plots show charge per cluster for 1...4 (top-left to bottom-right) strip clusters

Conclusions

- Parametric Charge Deposition Model for SVXII and ISL has been tuned and agrees well with data
- Included in 5.3.0