

Update Plots - Data-MC mis-match fixed

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ICRC 2025 Plot Approval
June 15, 2025

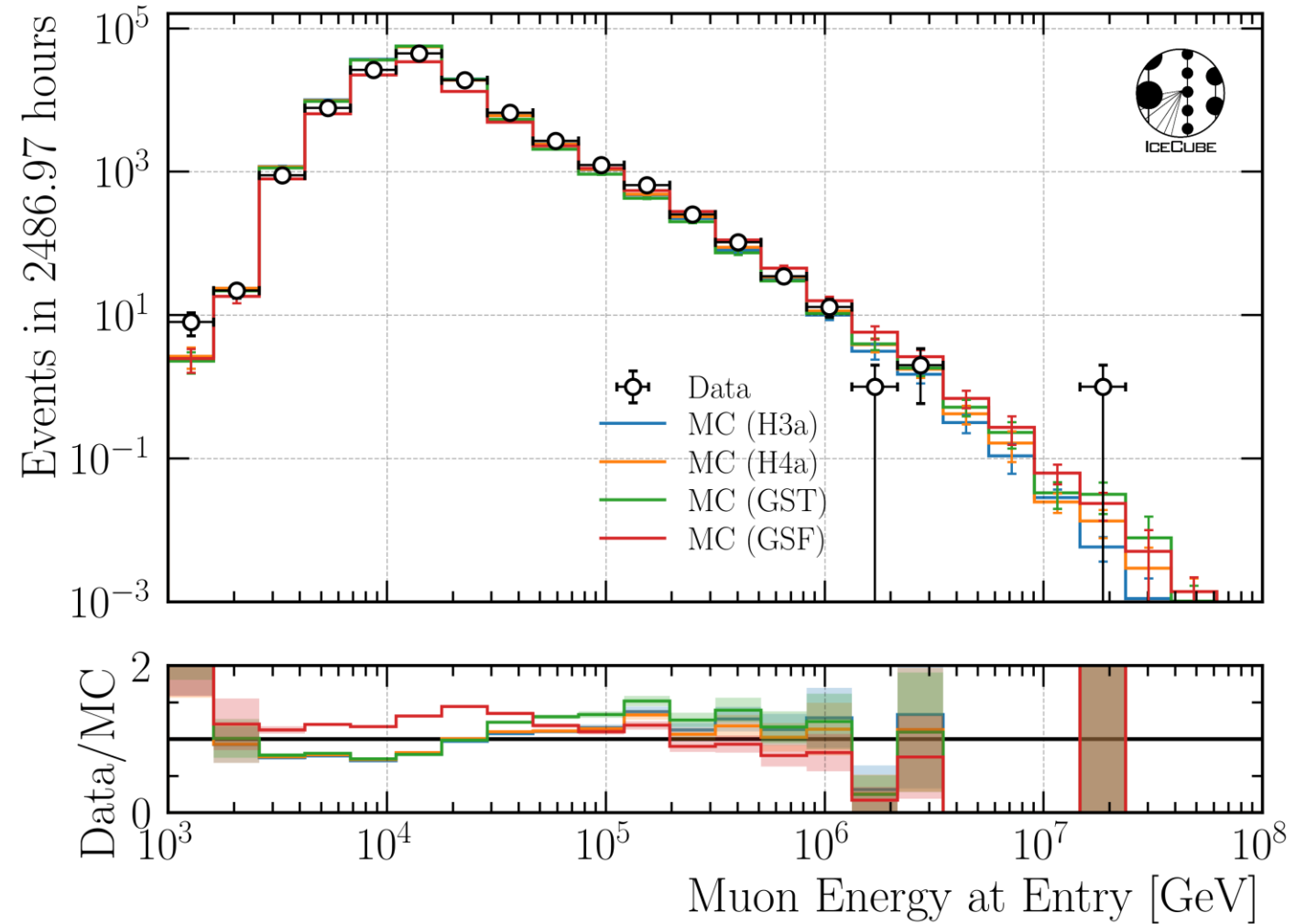
WG reviewer: Dennis Soldin
Coll. reviewer: Anatoli Fedynitch
Technical reviewer: Karolin Hymon
Wiki: [prompt wiki](#)
Last update: [Uppsala May 14](#)

Plot approval: [wiki](#)

Muons

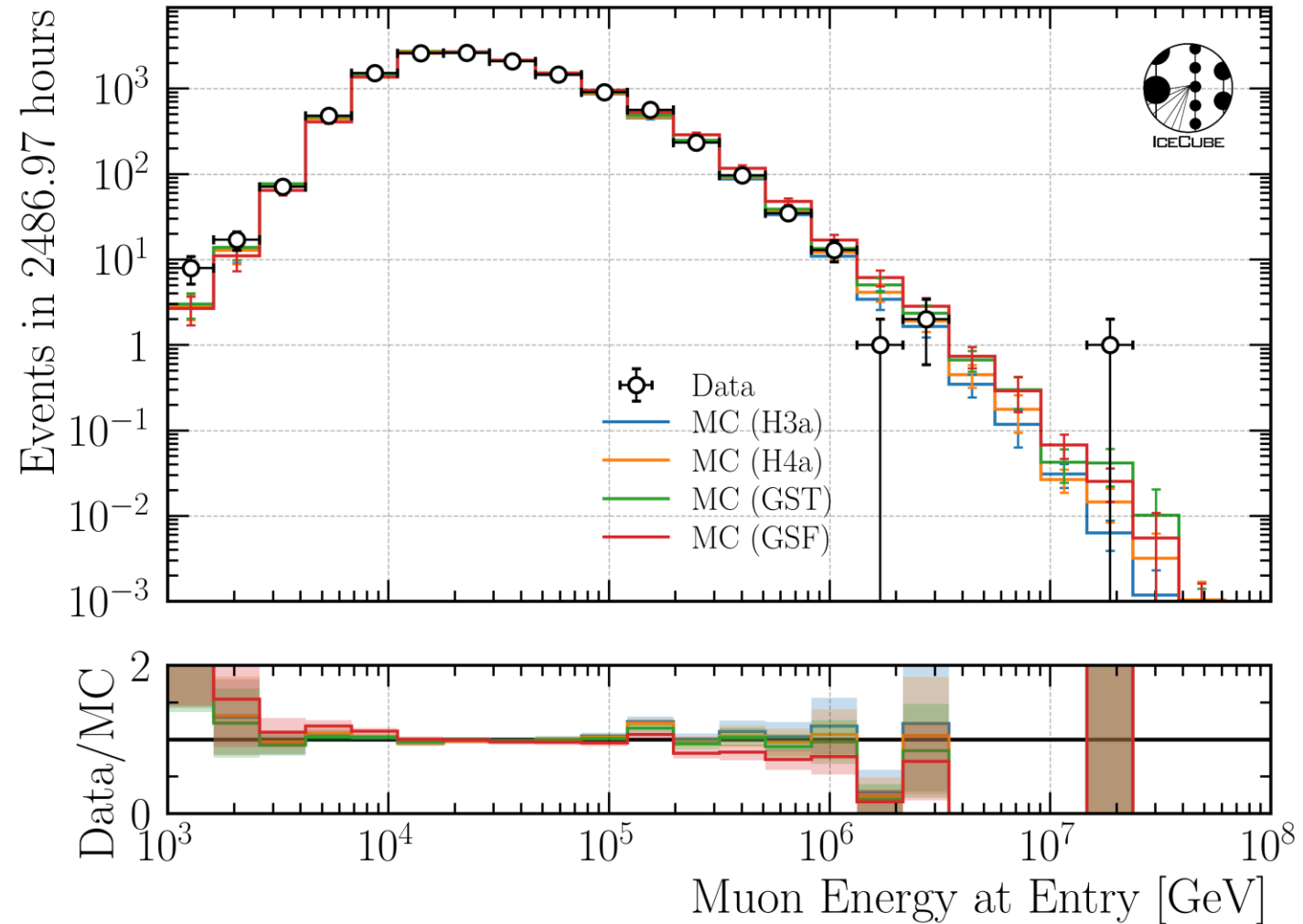
Data-MC: Leading Muon Energy (no cut)

- Mis-match for all 4 primary models
- Different shape for GSF and the other 3 models



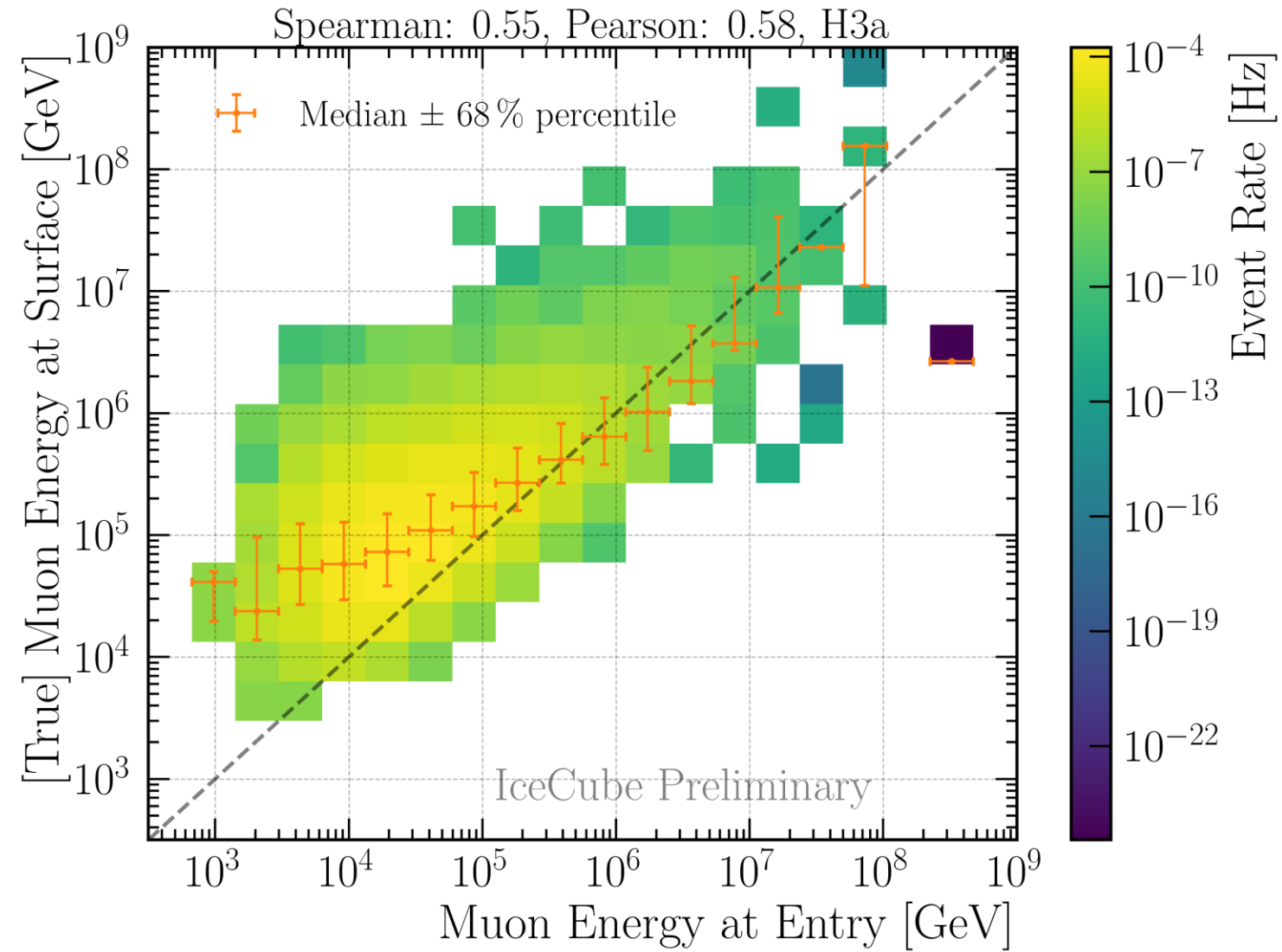
Data-MC: Leading Muon Energy (leadingness cut of 0.4)

- leadingness:
leading muon energy
divided by total
bundle energy
(at entry)



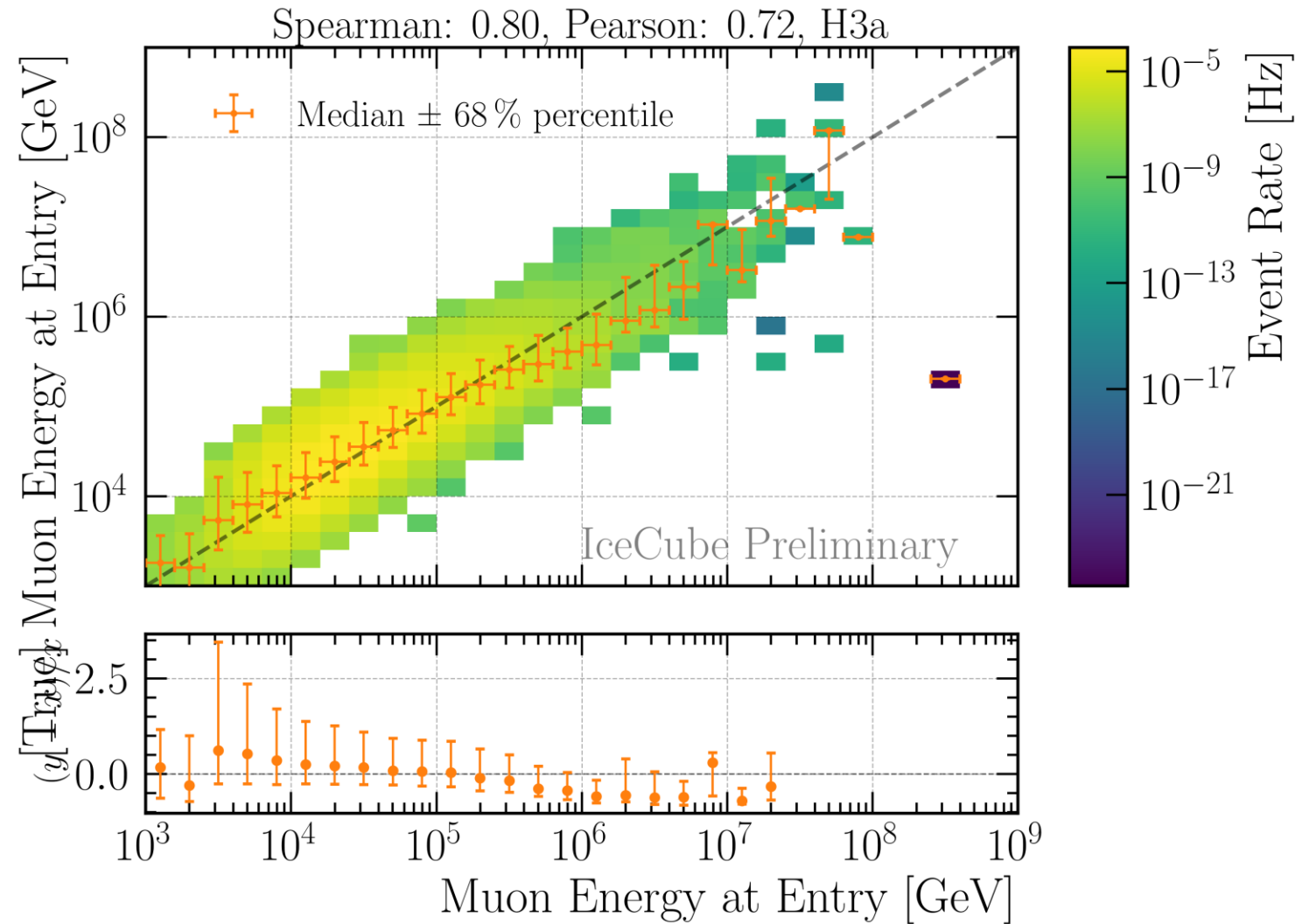
Correlation

- better correlation than before



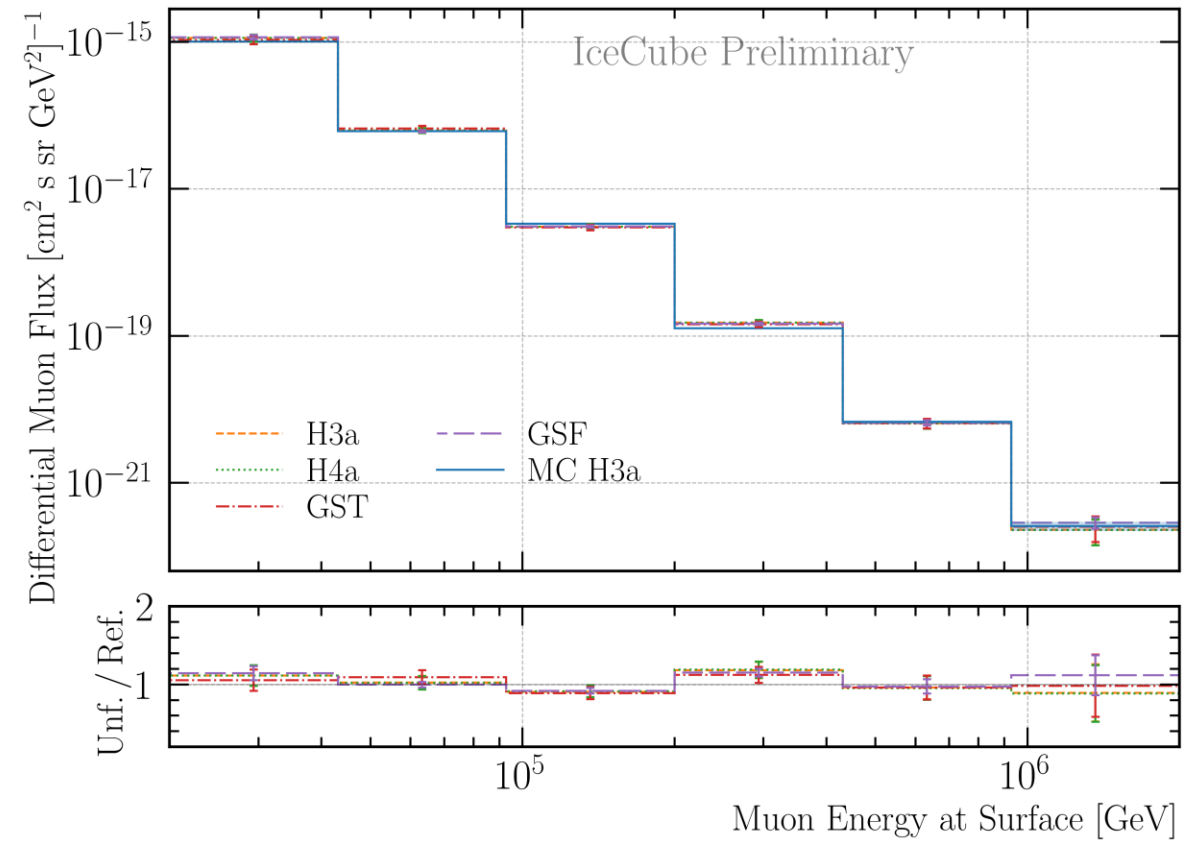
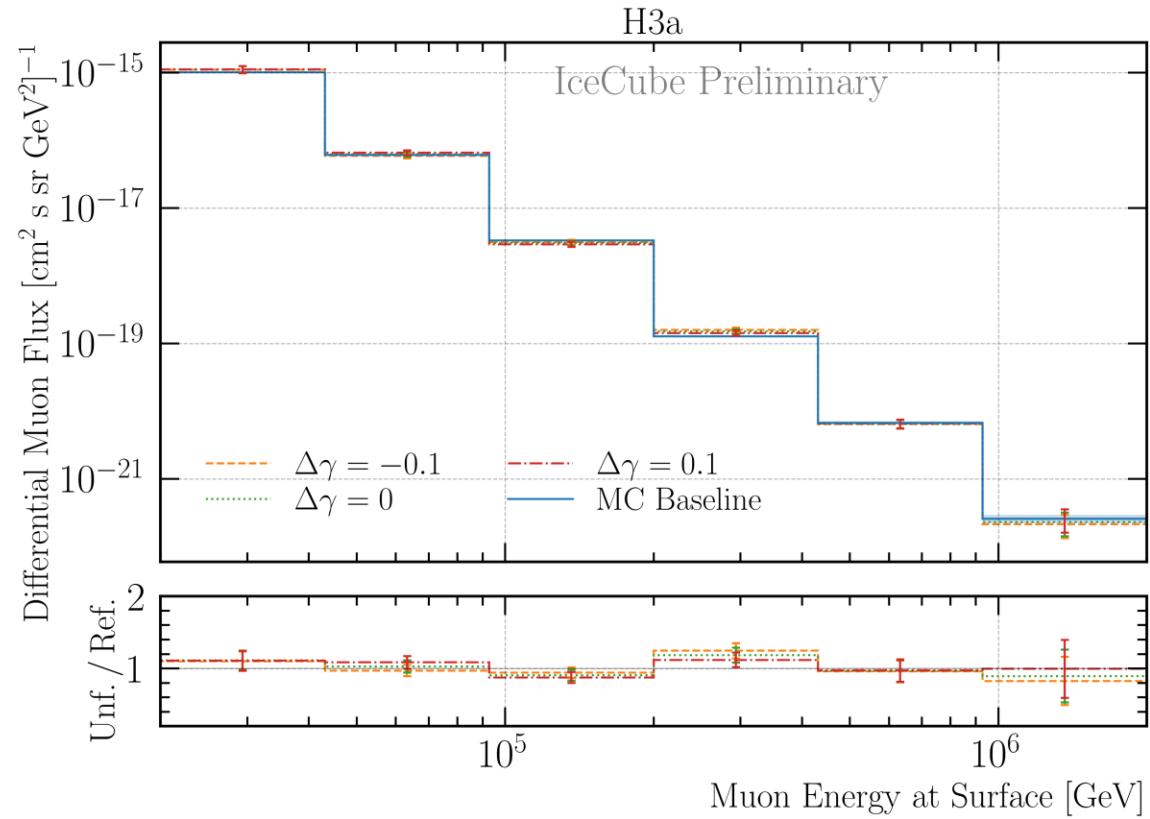
Reconstruction: True vs Pred

- better resolution than before



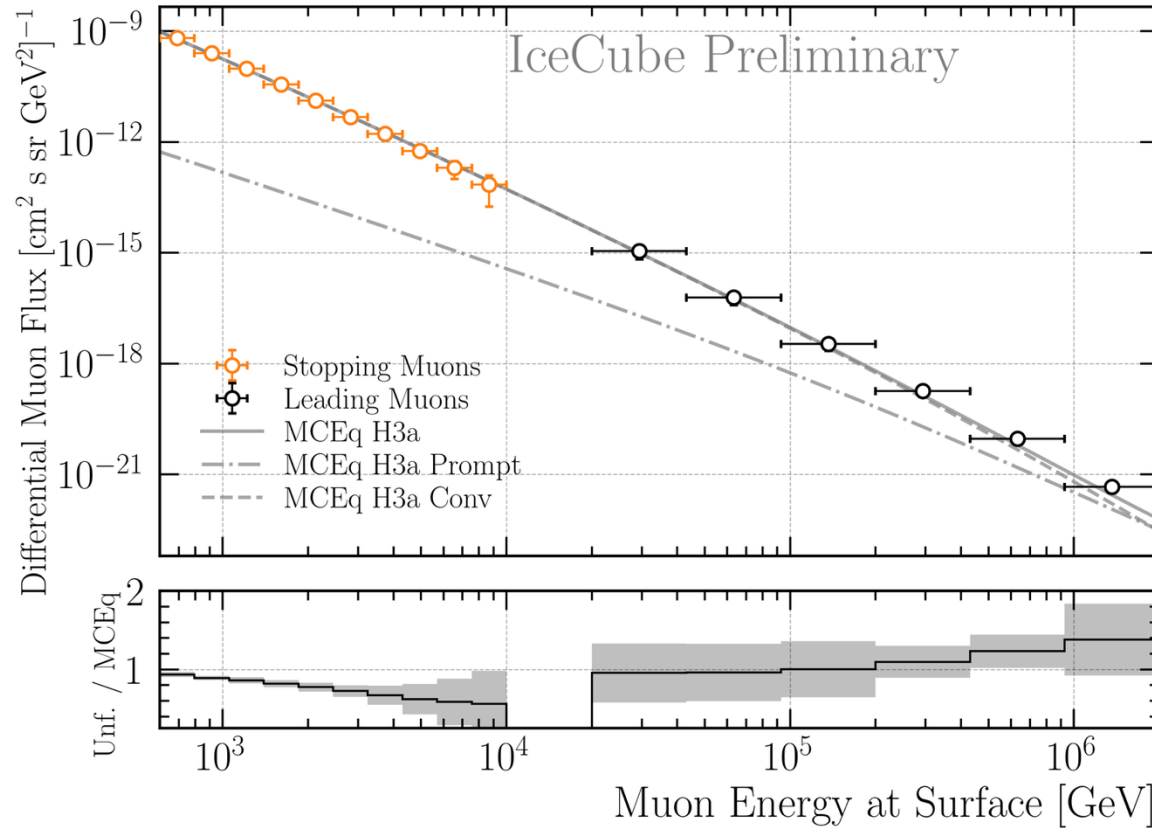
Robustness Tests

- more robust

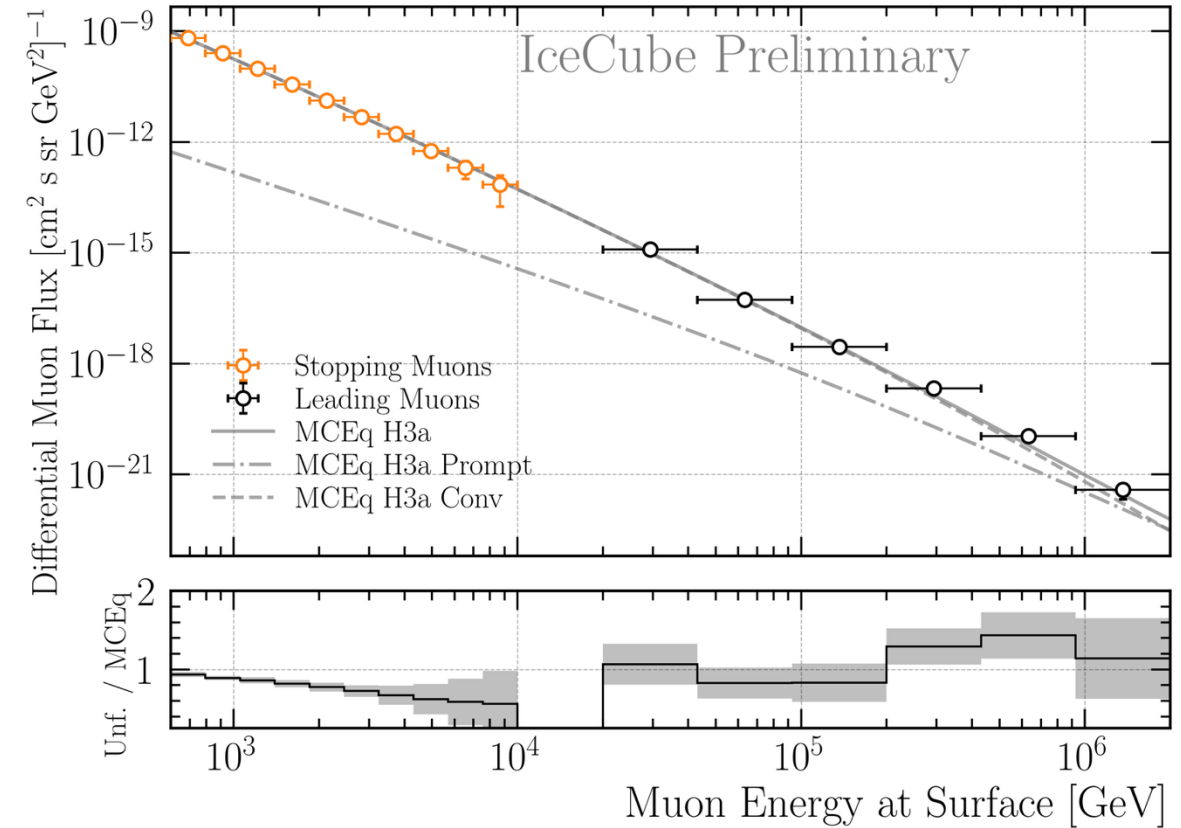


- unfolding result is within the uncertainties the same as before

Muon Flux Unfolding



New result



Old result