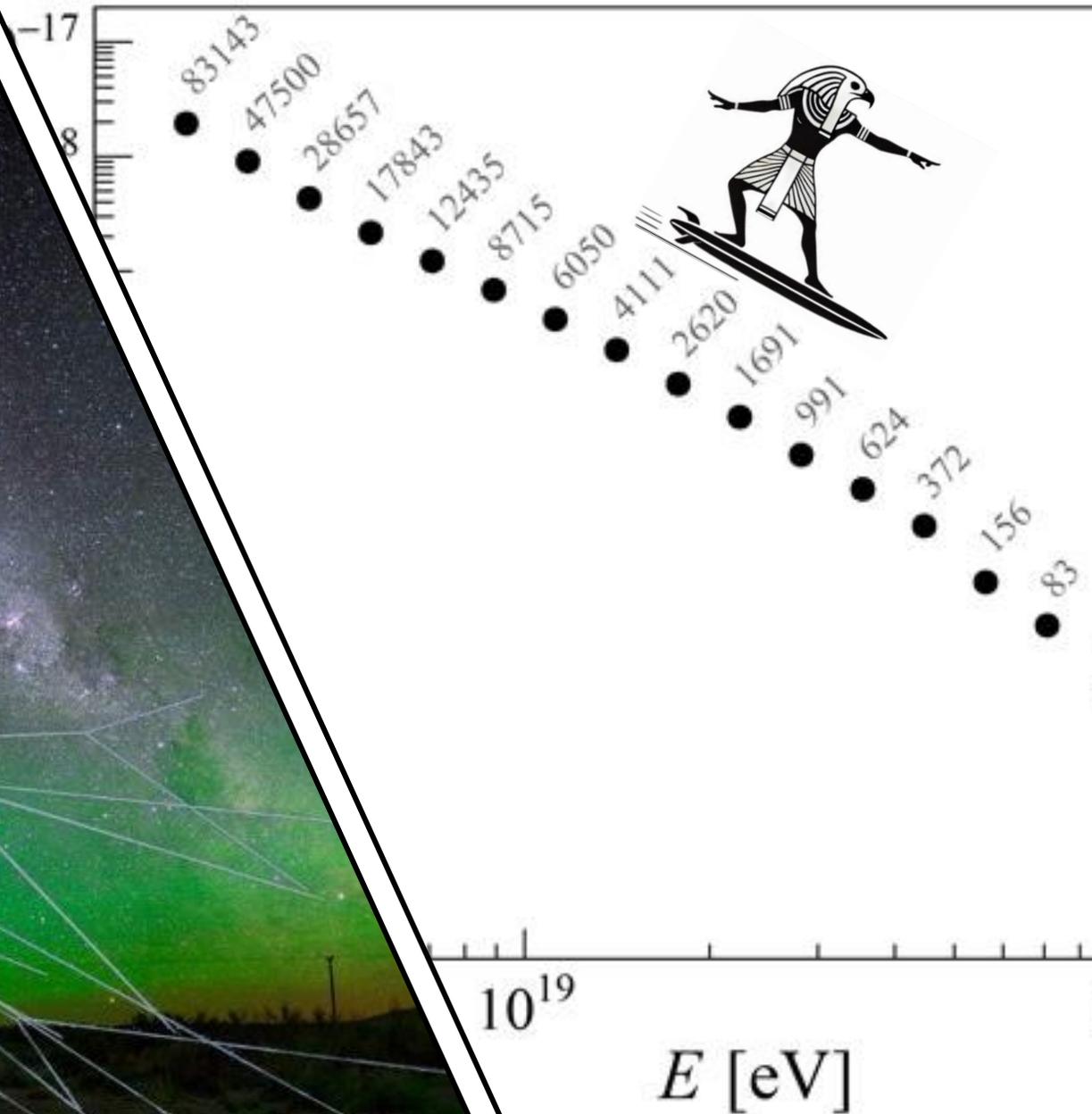


Habemus AugerPrime Data

*Fabio Convenga & Francesco Salamida, Valerio Verzi,
Vincenzo Rizi*



INTRODUCTION



- ICRC 2025 data released for testing
- Phase II first release
- All arrays are present for both Phase I and Phase II
- Some preliminary analysis is necessary to ensure data quality and use for physics (e.g., spectrum)
- The work has just started, some preliminary checks have been done and the first production tests of the SSD/Upgraded WCD spectra have been done





Used data from Offline's test4 for ICRC2025

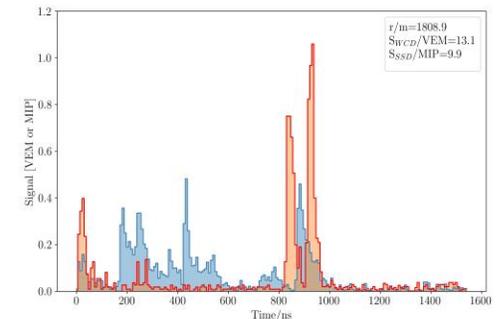
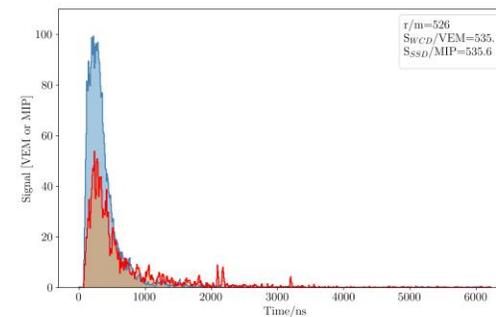
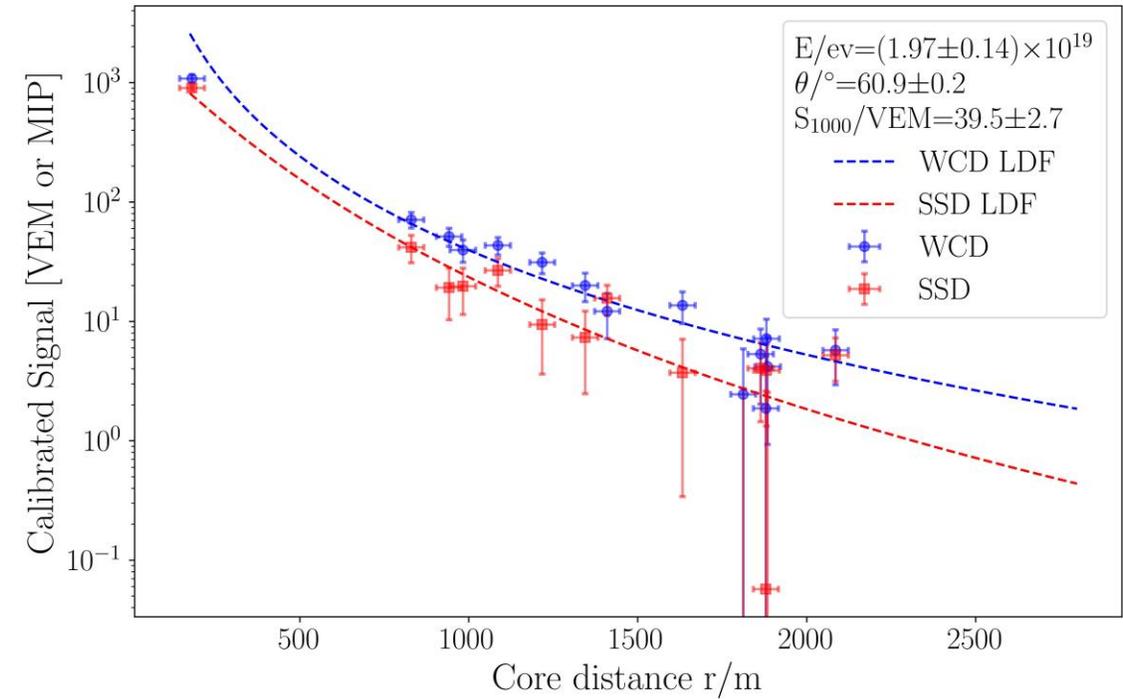
IsUUB Cut: 35599

recEnergy!=0. Cut: 35578

Is6T5==1 Cut: 29985

log10E>=18.5 Cut: 1356

zenith_seno_quadro<=0.75 Cut: 1059





Used data from Offline's test4 for ICRC2025

IsUUB Cut: 35599

recEnergy!=0. Cut: 35578

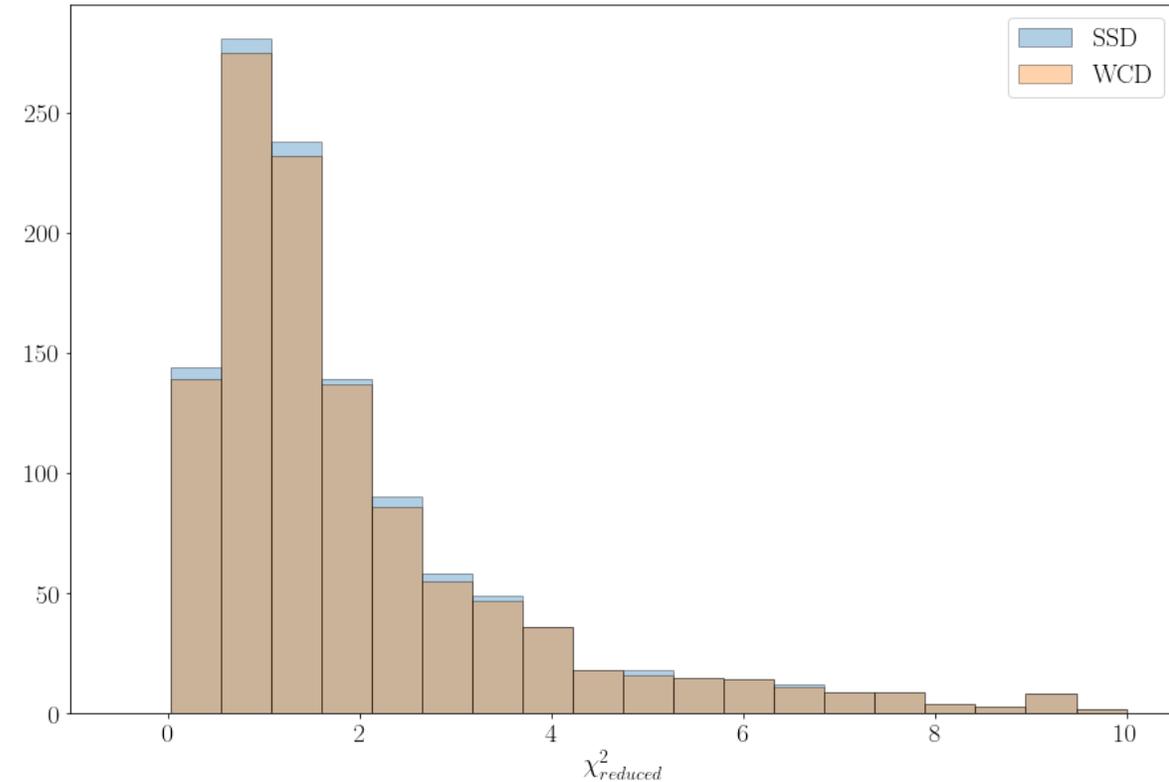
Is6T5==1 Cut: 29985

log10E>=18.5 Cut: 1356

zenith_seno_quadro<=0.75 Cut: 1059

SSD LDF parameterization under study

Next talk: Ricostruzione LDF (*Nicolas Martin Gonzalez Pintos*)





Used data from Offline's test4 for ICRC2025

IsUUB Cut: 35599

recEnergy!=0. Cut: 35578

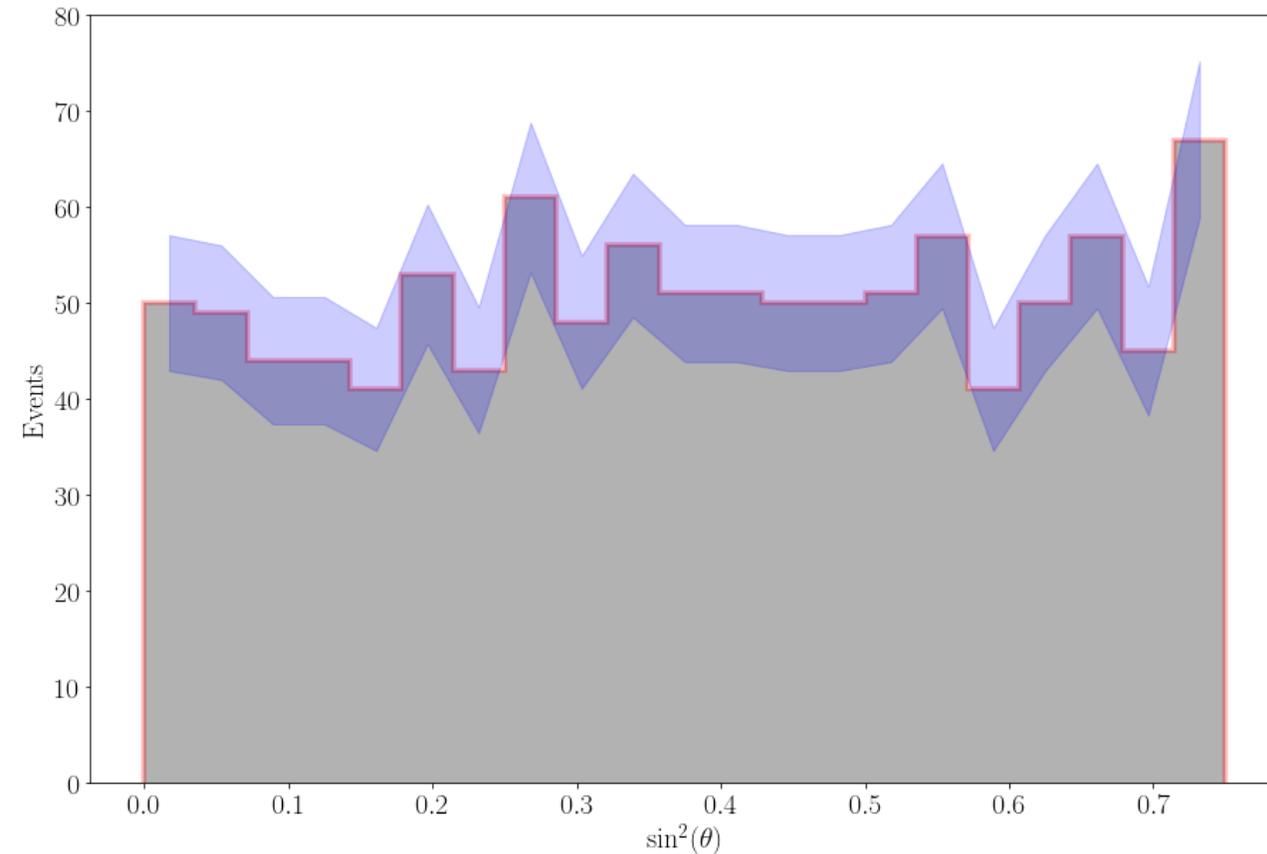
Is6T5==1 Cut: 29985

log10E>=18.5 Cut: 1356

zenith_seno_quadro<=0.75 Cut: 1059

Events vs $\sin^2(\theta)$ distribution: flat

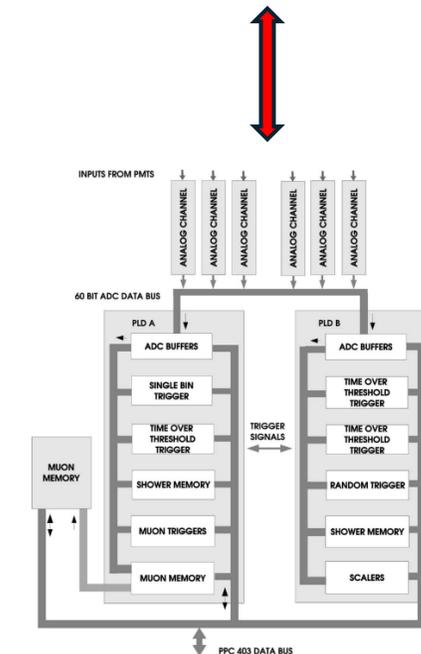
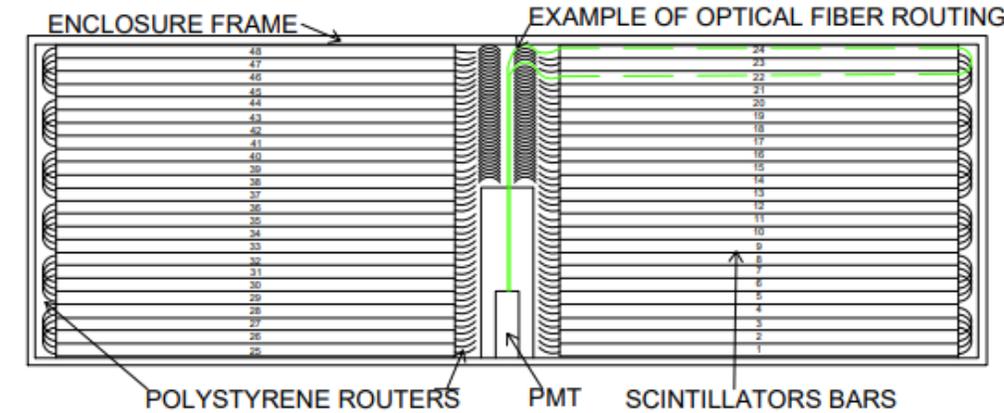
What does the SSD spectrum look like?
Francesco/Fabio presentation will show our first results on the CIC procedure applied to SSD and upgraded WCD

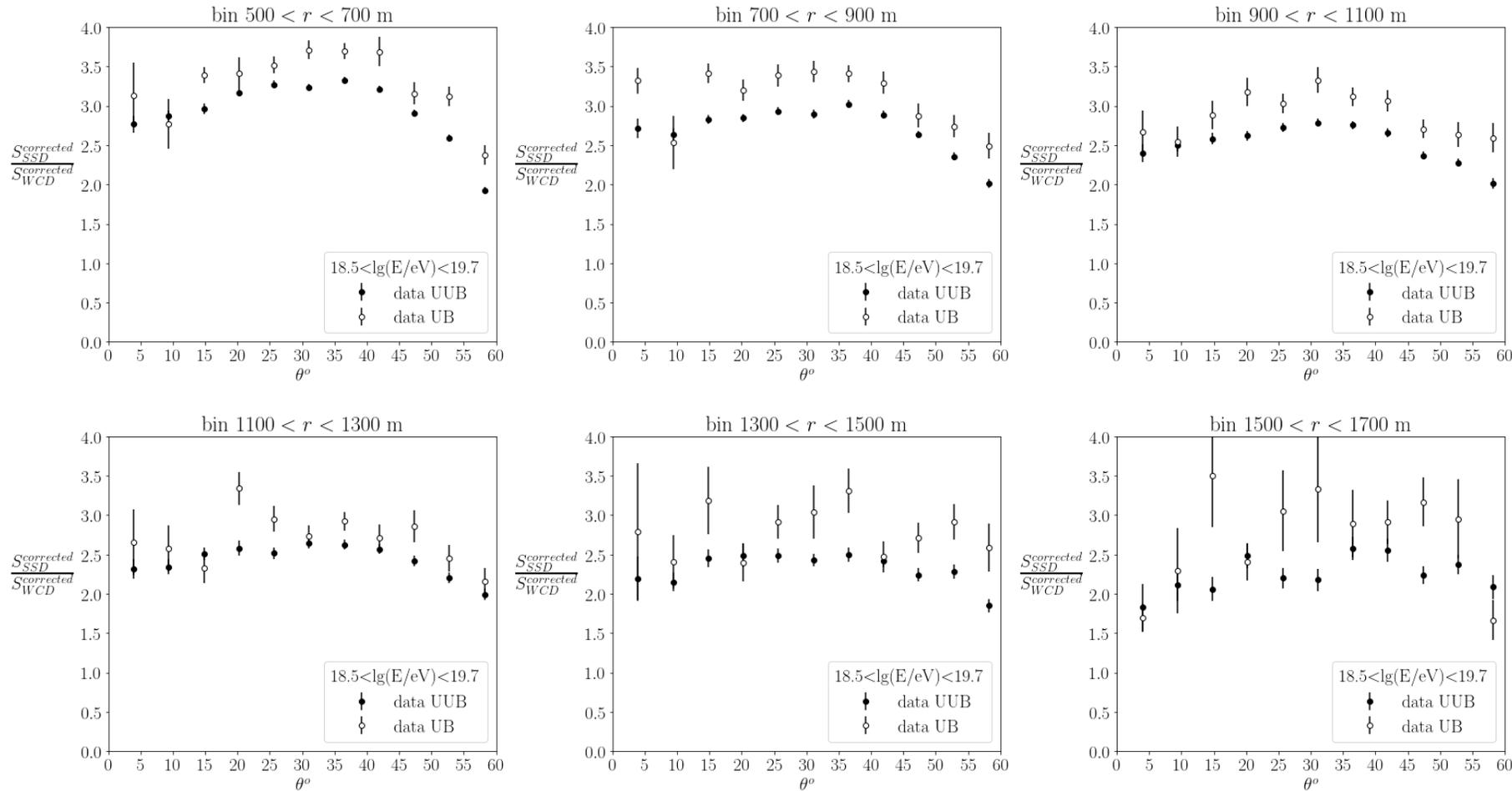


SSD/WCD ratio



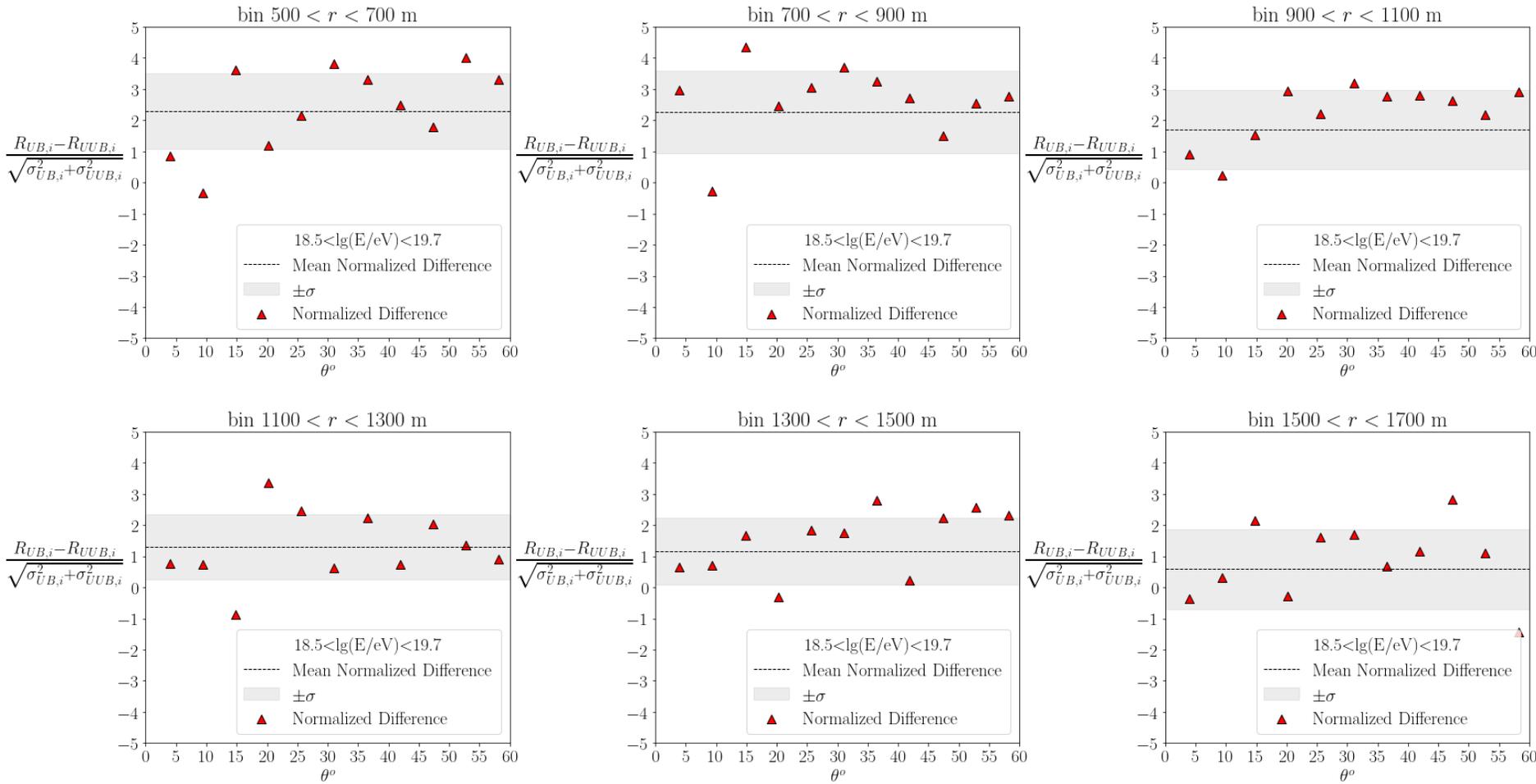
- Several efforts were spent in making the old configuration compatible with the current one
- This is essential in order to merge the Phase I statistics with the new Phase II statistics
- Many lower-level checks revealed issues; many have been resolved
- One higher-level check that is missing is to compare the total (integral) calibrated signals acquired in the UB with those acquired from UUB
- Having the data from the SSD pre-production array we can check the ratios between the SSD/WCD signals measured by UB and those measured by UUB
- **If the calibration is compatible the ratios SSD/WCD signals must be compatible between UB and UUB**
- The signals in the following analyses are corrected for the geometric acceptance of the detectors





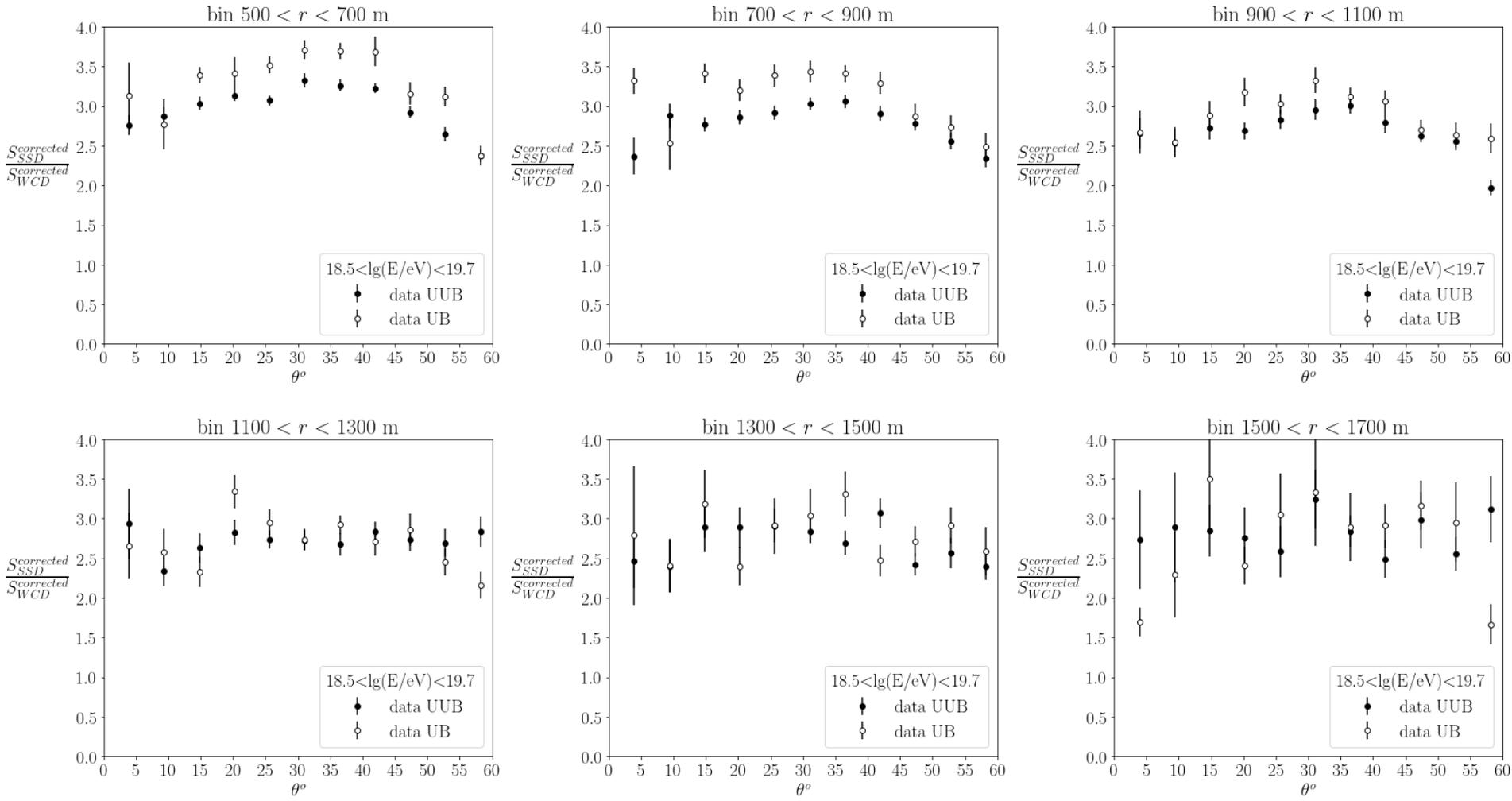
Situation in 2022,
with software and
hardware in 2022

SSD/WCD ratio



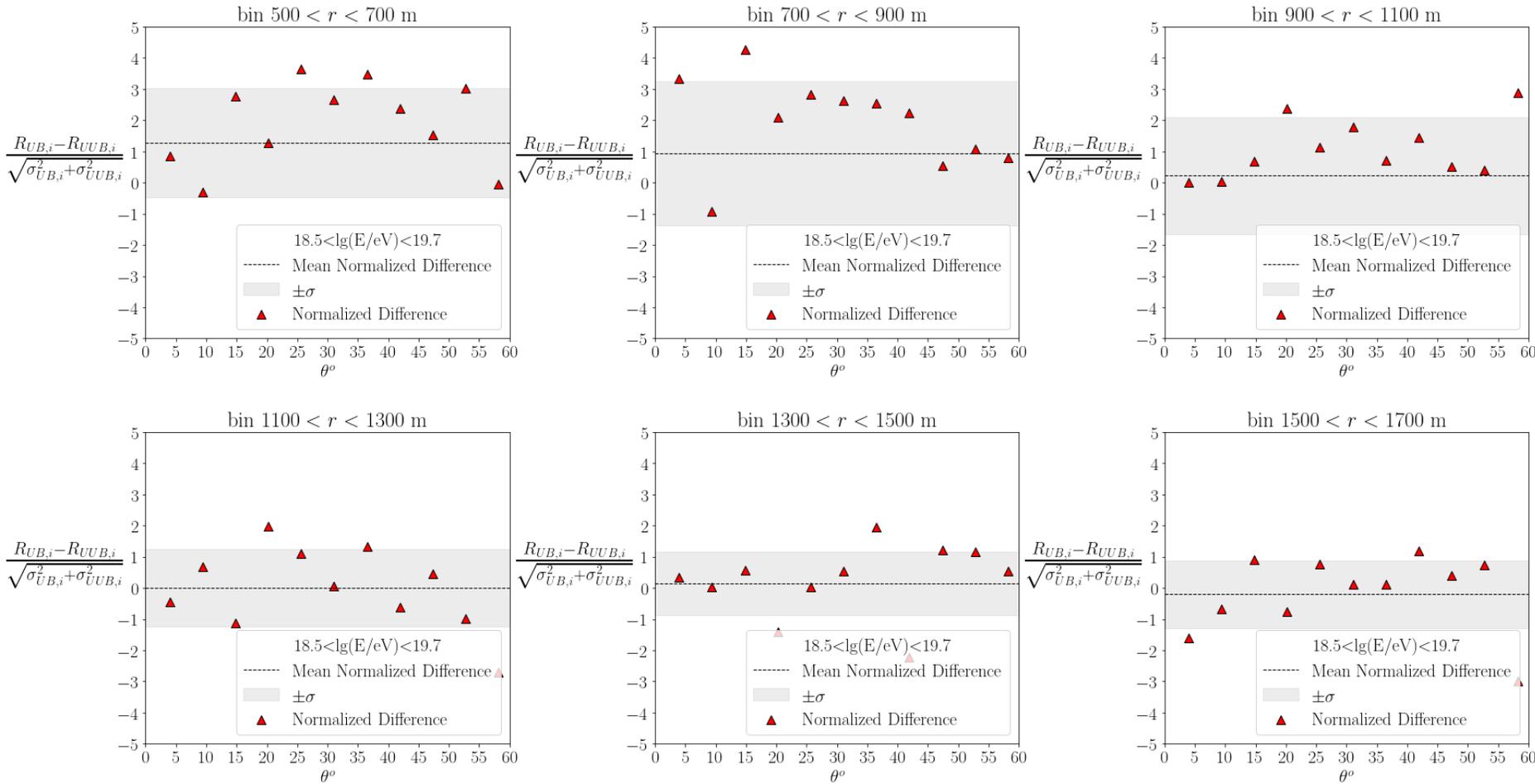
$$\frac{R_{UB,i} - R_{UUB,i}}{\sqrt{\sigma_{UB,i}^2 + \sigma_{UUB,i}^2}}$$

SSD/WCD ratio



Situation in 2025,
with ICRC2025
Phase II data

SSD/WCD ratio



$$\frac{R_{UB,i} - R_{UUB,i}}{\sqrt{\sigma_{UB,i}^2 + \sigma_{UUB,i}^2}}$$



- The first reconstructed Phase II data are out
- The first high-level checks are being done
- The ratio between SSD/WCD signals has been evaluated for Offline test4 data, there are still small discrepancies to be understood
- CIC procedure is being applied to evaluate the first raw spectra for SSD and upgraded WCD

