

# Updates on non linear corrections using new elton SiPM Saturation codes

Karthik Suresh

University of Regina

November 15, 2018

# Pi0 gain calibrations

- Started the calibration for the Runs 40864 - 41102 on 5 November 2018
- After 8 iterations found that I was not using the new code (Probably I messed up in building the correct codes)
- Dr Elton Smith figured the problem and corrected it on 13 November 2018
- However, I could not closely replicate Tegan's latest calibration. It was a good exercise.
- Started once again on 13 November 2018, Now on the right branch
- Finished Iteration 0 and 1 as on 15 November 2018.

# plots from the old codes

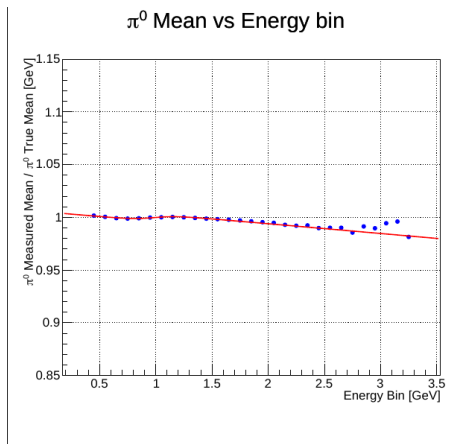


Figure: It closely follows Tegans plot [https://halldweb.jlab.org/DocDB/0034/003475/014/AUG20\\_nonlinearcorrection.pdf](https://halldweb.jlab.org/DocDB/0034/003475/014/AUG20_nonlinearcorrection.pdf)

# The nonlinear plots from the new codes

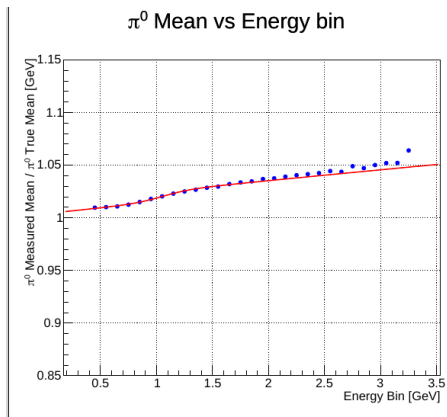


Figure: The non linear corrections for Iter0

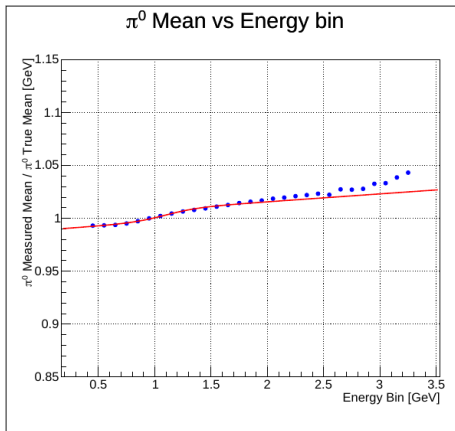


Figure: The non linear corrections for Iter1

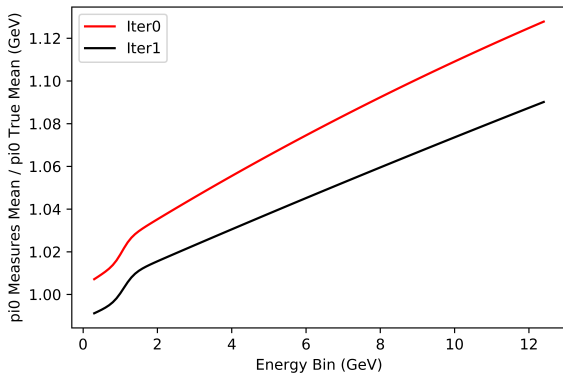


Figure: The constants get better for every iteration

Possibly by the end of this week we can finish for the run period 40864-41102 and start the calibration for the 2018 fall data