

Data-Driven Bad MC Channels

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Motivation

- Want to improve matching of data & MC in SciFi Tracker readout
- Observe some inconsistencies in channel performance between MC & data

Currently

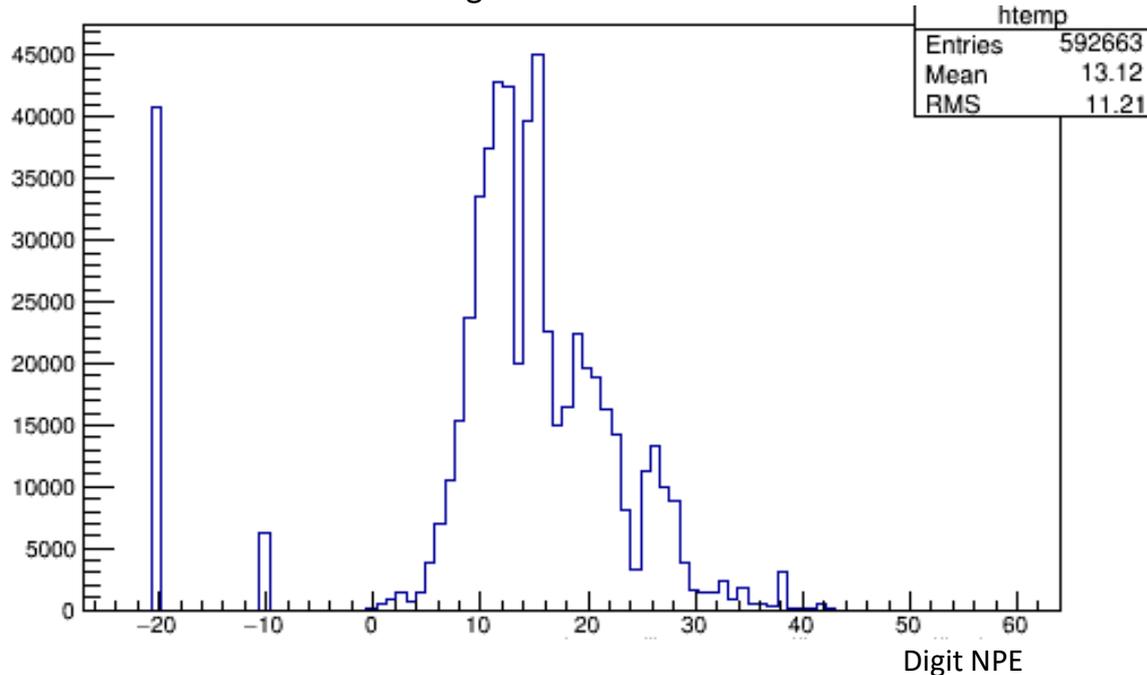
- Updated MAUS to include a separate bad-channel calibration for MC :
Excludes empty and/or hot channels in data from MC production

MC plots are without using data-driven particles MC..

Still early days – may require tuning

New Bad Channel NPE per Digit

NPE Per Digit - run 10510

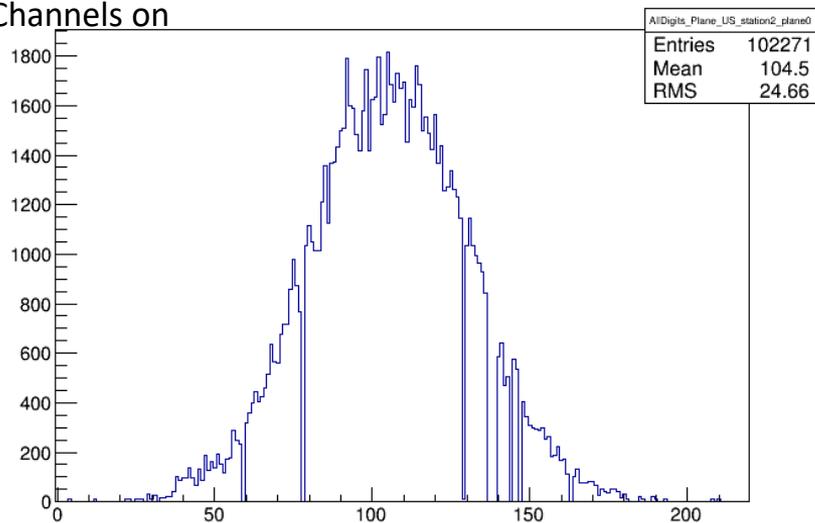


- -20 NPE peak includes only digits which would otherwise be reconstructed without new Bad MC Channel calibration
- V large impact on number of digits likely due to missing data-driven MC

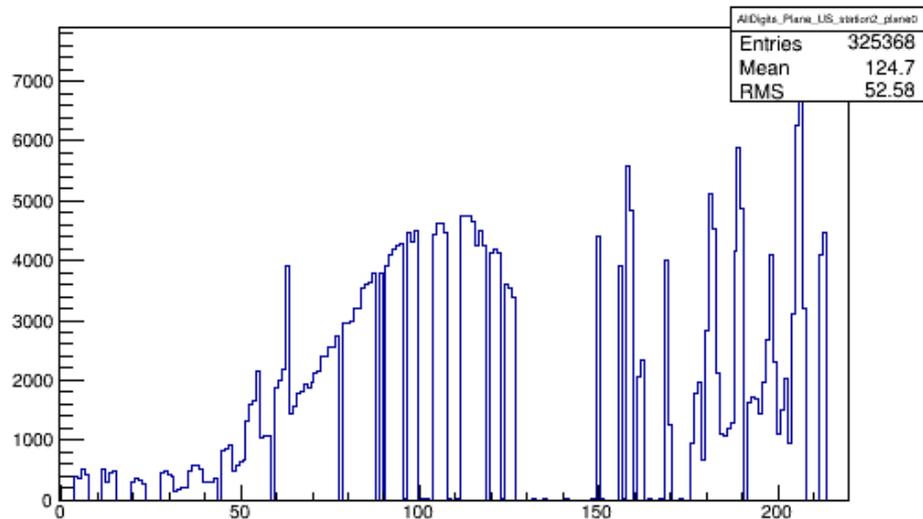
Digits per channel

Digits per Chan – US S2 P0 – run 10510 – Bad MC

Channels on

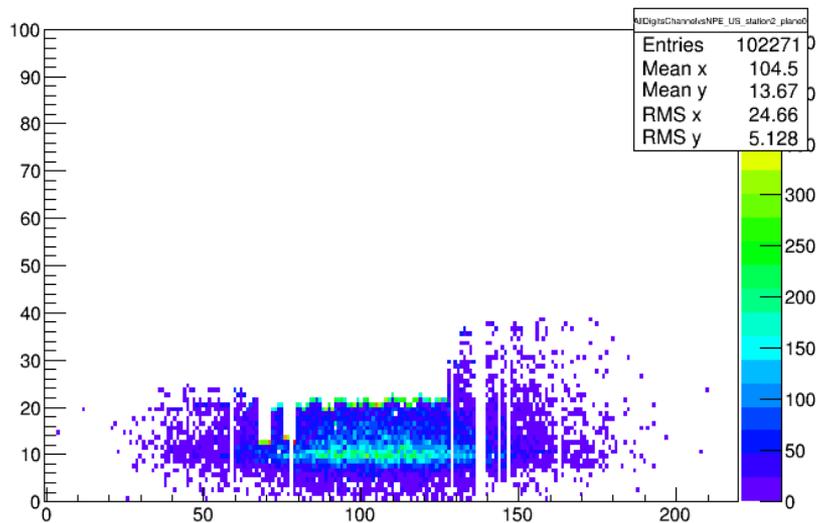


Digits per Chan – US S2 P0 – run 10510 – data – NPEDigitcut >=2

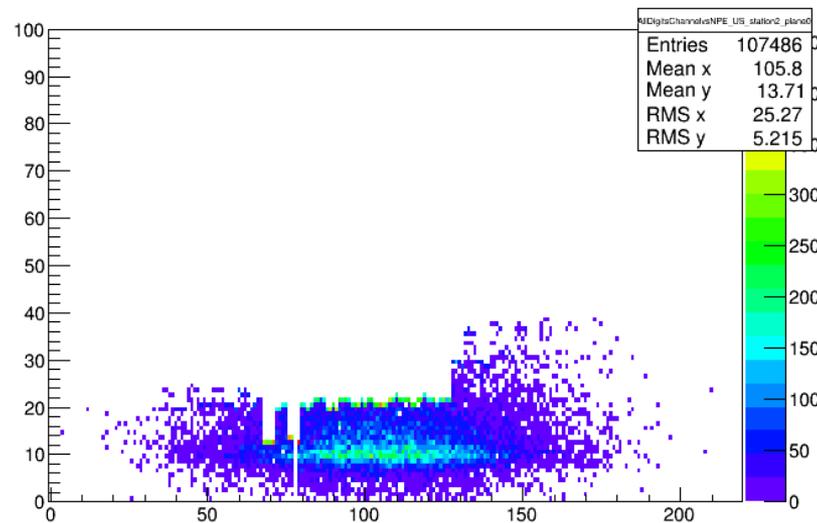


NPE vs Chan no

NPE vs Chan no – run 10510 – Bad MC Channels on

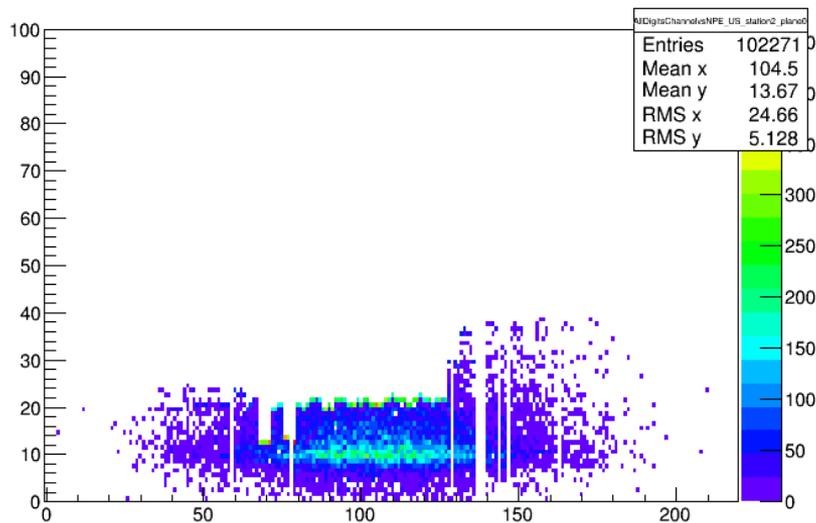


NPE vs Chan no – run 10510 – Bad MC Channels off

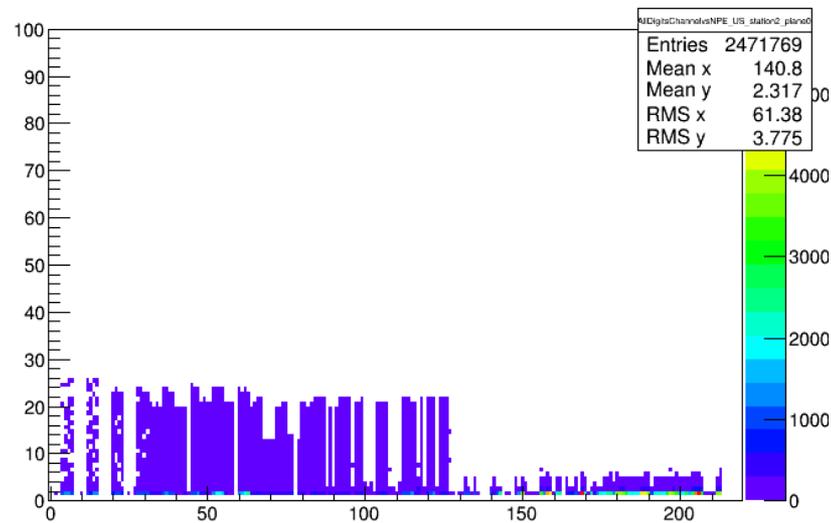


NPE vs Chan no

NPE vs Chan no – run 10510 – Bad MC Channels on



NPE vs Chan no – run 10510 - data



- Running with NPED = 2



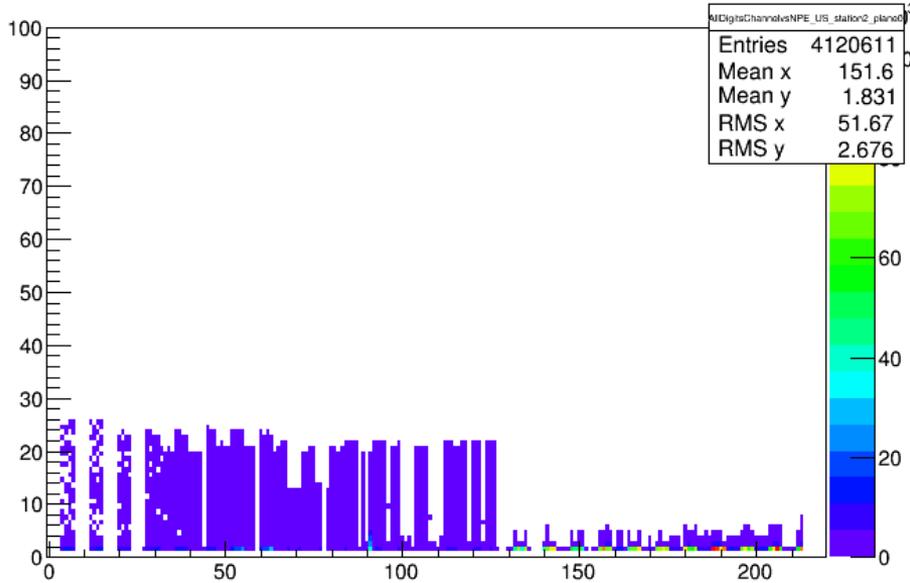
Analysis (in progress)

- Data-driven MC for particles + new calib..
- Comparison of updated bad channel mappings for multiple combined runs
- Some tuning of very low (but non-zero) digit channel required? Also possible tuning of NPEDcut

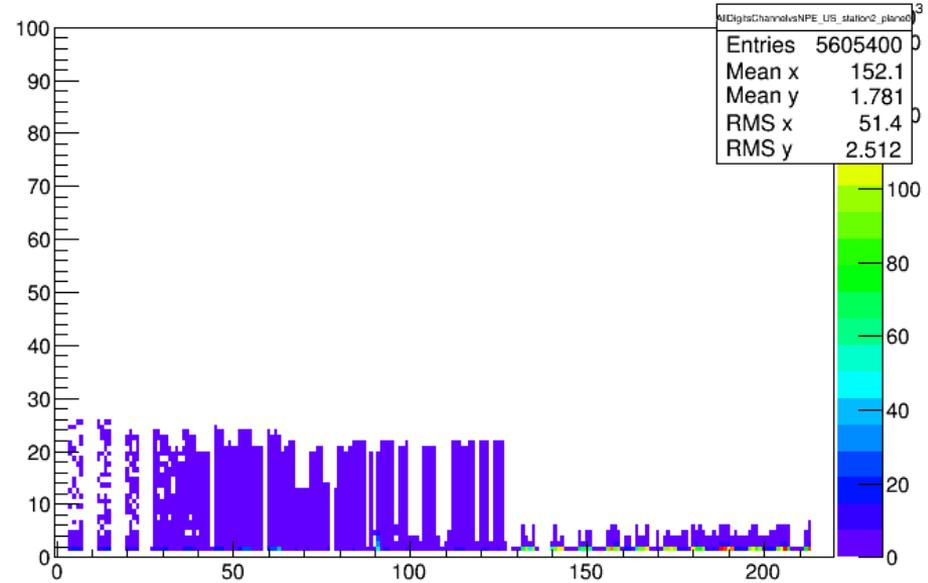
Backup

NPE vs Chan no

NPE vs Chan no – run 09898 - data



NPE vs Chan no – run 09903 - data



- Running with NPED = 2