

INTT Weekly Meeting

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- Helping debug new Fun4All workflow:
 - Did more revisions to the workflow, caught another bug (on my end)
 - Output is very similar to what it was before (identical)
- INTT Alignment
 - Added functionality to retrieve hit positions to repository
 - Was requested I implement it in a CDB type object rather than in source code
 - Changes are in my working branch but have not been merged to coresoftware

- Updated decoder is in my branch of [coresoftware](#)
- The format of TTrees for internal debugging is basically in its final form
 - Vector branches organized by event that could be iterated over
 - I've settled on data types for each field (int, long long, double)
- Macros which produce and analyze the new TTrees can be also found in the INTT repository (changes have been merged)
 - [Production macro example using new framework](#)
 - [Analysis macro example using new framework](#)

Current Workflow:

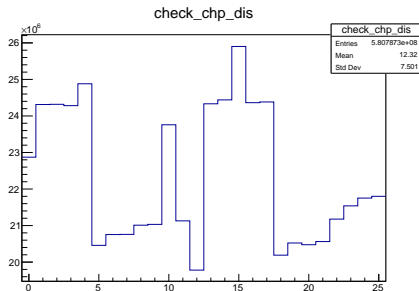


Figure: Reference distribution of decoded chip indexes

Prospective workflow (WIP):

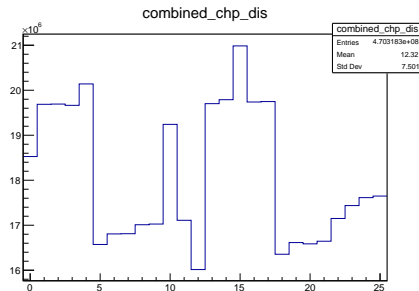


Figure: Debug distribution of decoded chip indexes

Current Workflow:

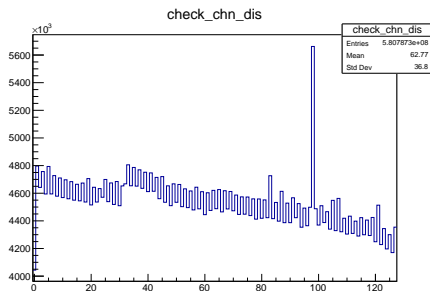


Figure: Reference distribution of decoded channel indexes

Prospective workflow (WIP):

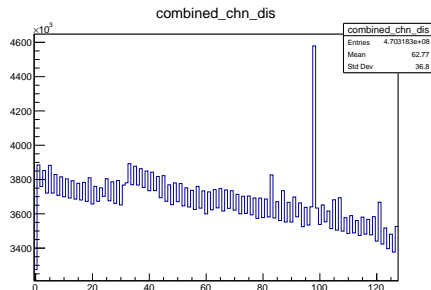


Figure: Debug distribution of decoded channel indexes

- The combined output ended up being split between two root files by default
 - (overflow but file size is reasonable)
- Exact same shape now
- I would recommend using new workflow
 - Will talk about setting up production with Genki and those interested
- Both now show a peak in a channel decoding of 100
 - Could be a misinterpreted data word
 - Will talk to Raul and Martin

- Wrote code to produce align transforms
 - Directly made instances of Eigen objects
 - Could produce positions successfully
 - Will be incorporated into main workflow
- Can use this code to feed information to the tracking group

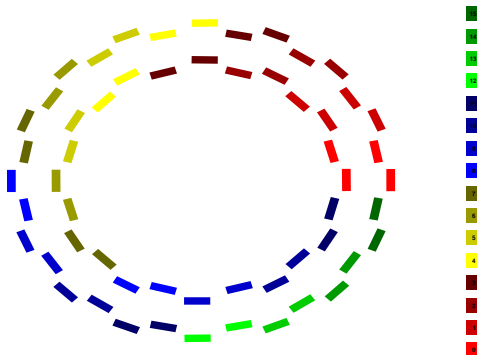


Figure: Output of a macro that uses the current version of the new function to produce the positions and orientations of sensors using survey data. The ladder positions are correct (Indexes are based on offline/tracking convention)

- Continue developing alignment methods/working with tracking group (after QM2023)
- Help with $dE/d\eta$ analysis (after QM2023)
- Revisit Online Monitoring before end of the year