NEMENIX

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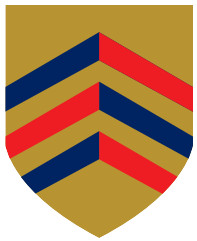
SoLid



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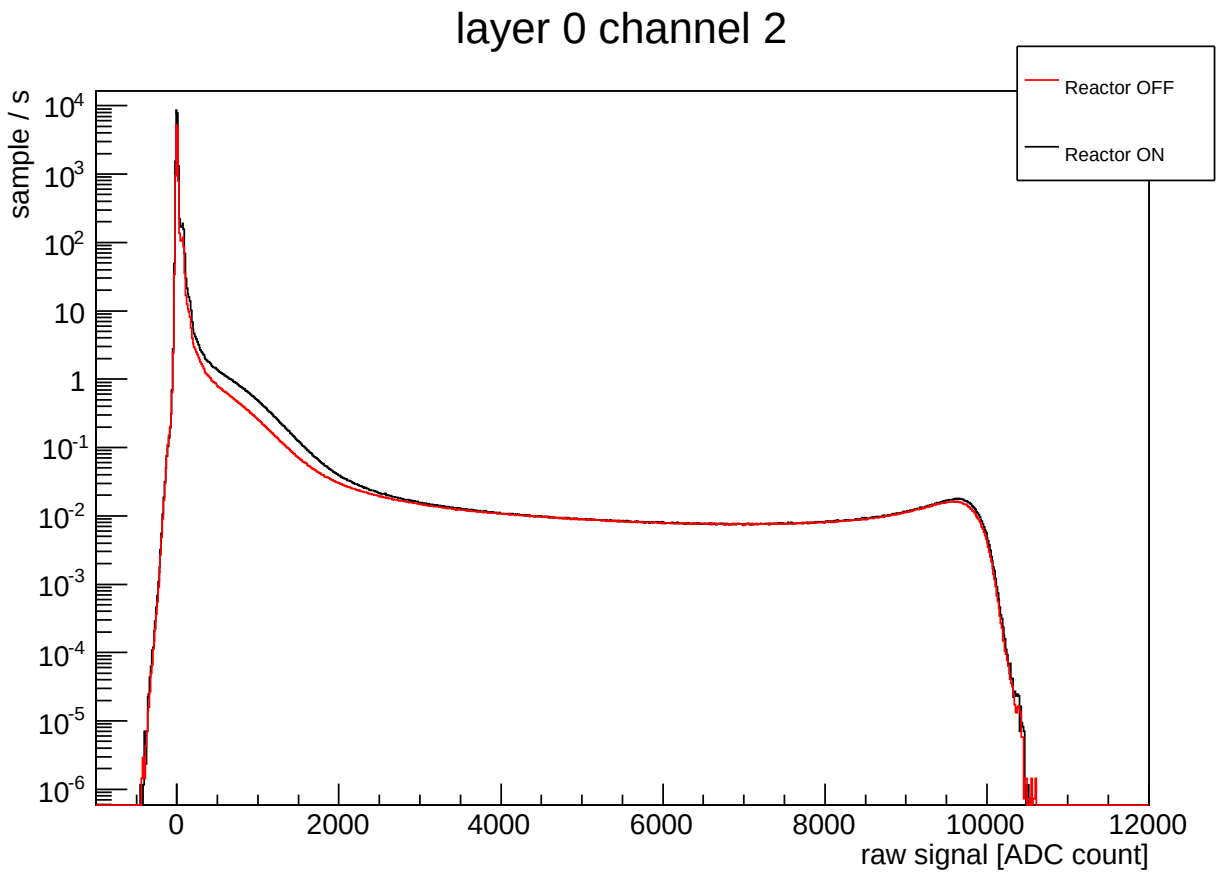
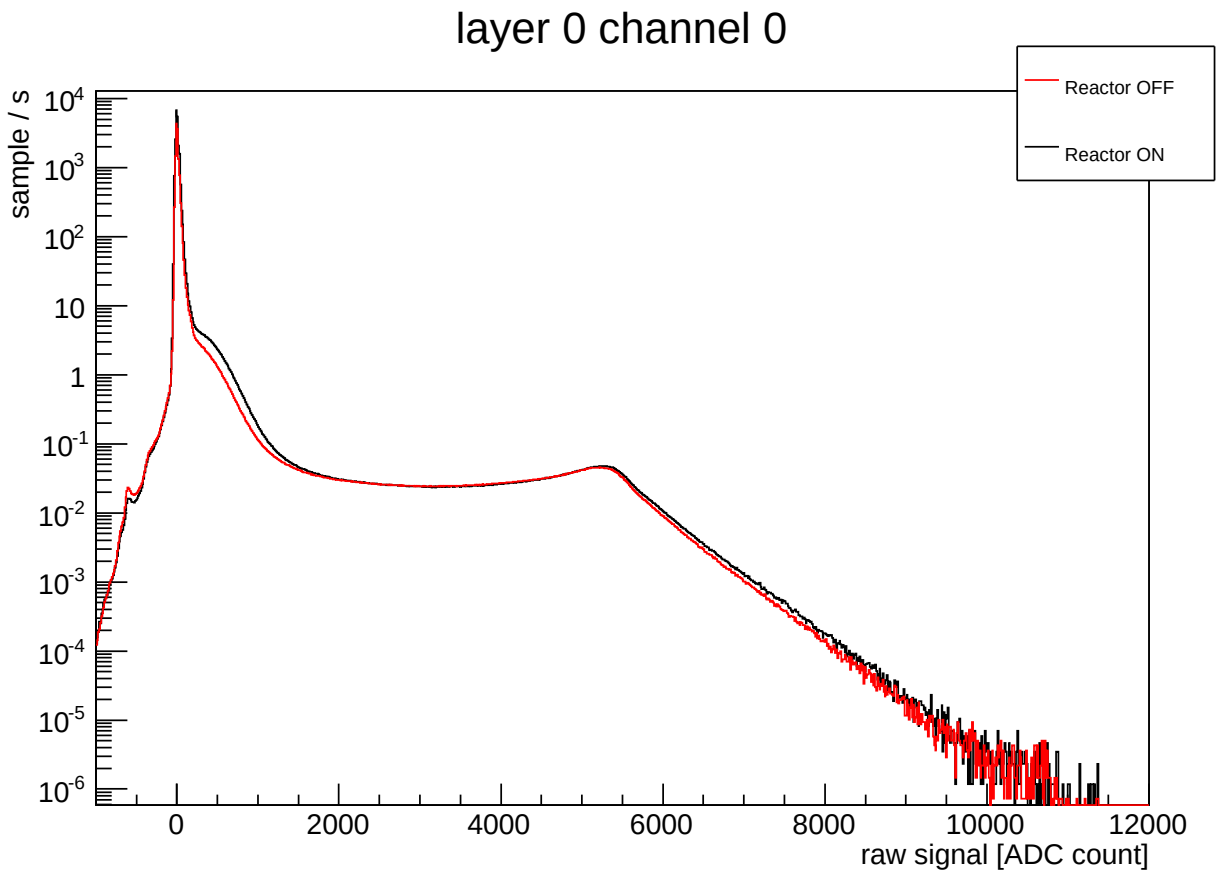
Overview

- This is just update
- More details in bitbucket.org:solidexperiment/nemenix.git
- /analyses/doc/initialrates on master branch
- NEMENIX μ rate fixed by Petra
- Pulling together code to do IBD coincidences, muon veto, etc.
- Will produce small dataset of identified particles
- Currently validating timing calibration between different digitisers

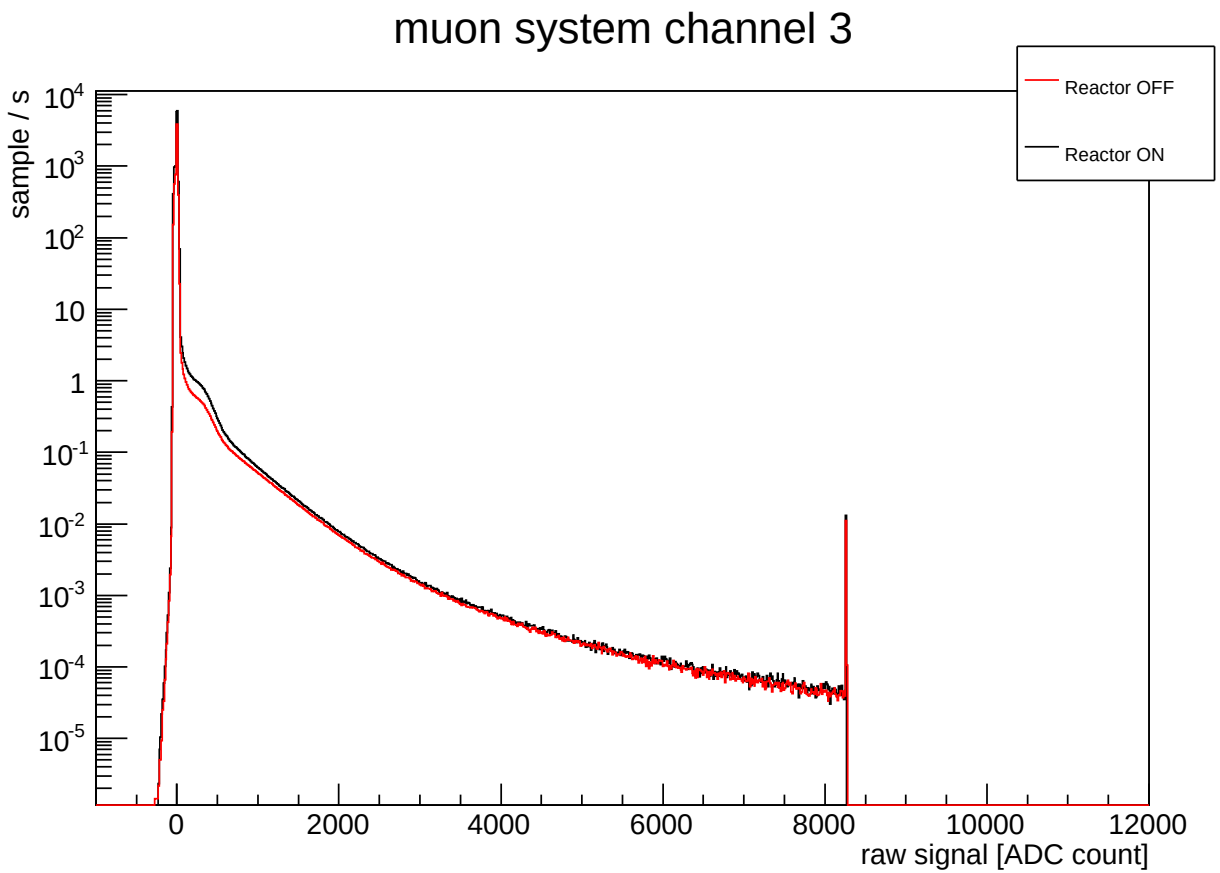
Raw data - good NEMENIX channel



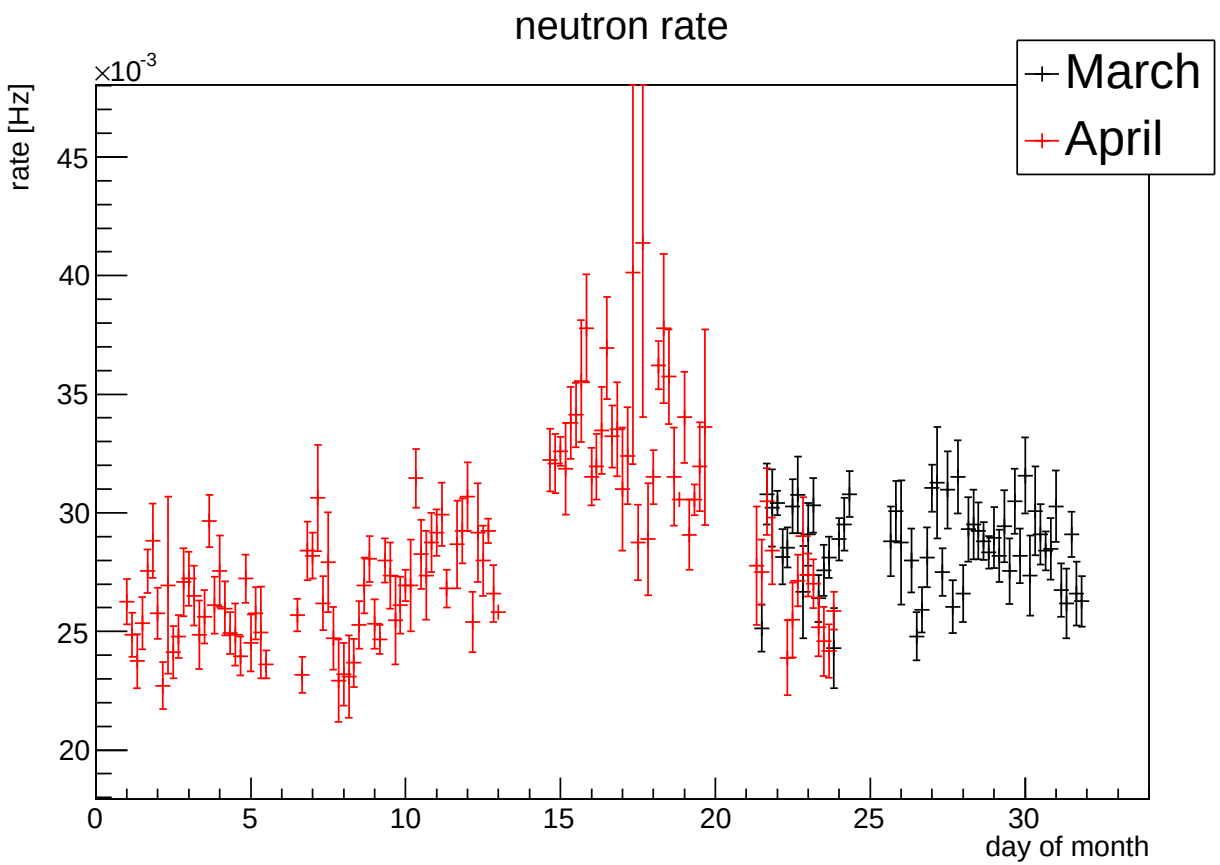
Raw data - bad NEMENIX channel



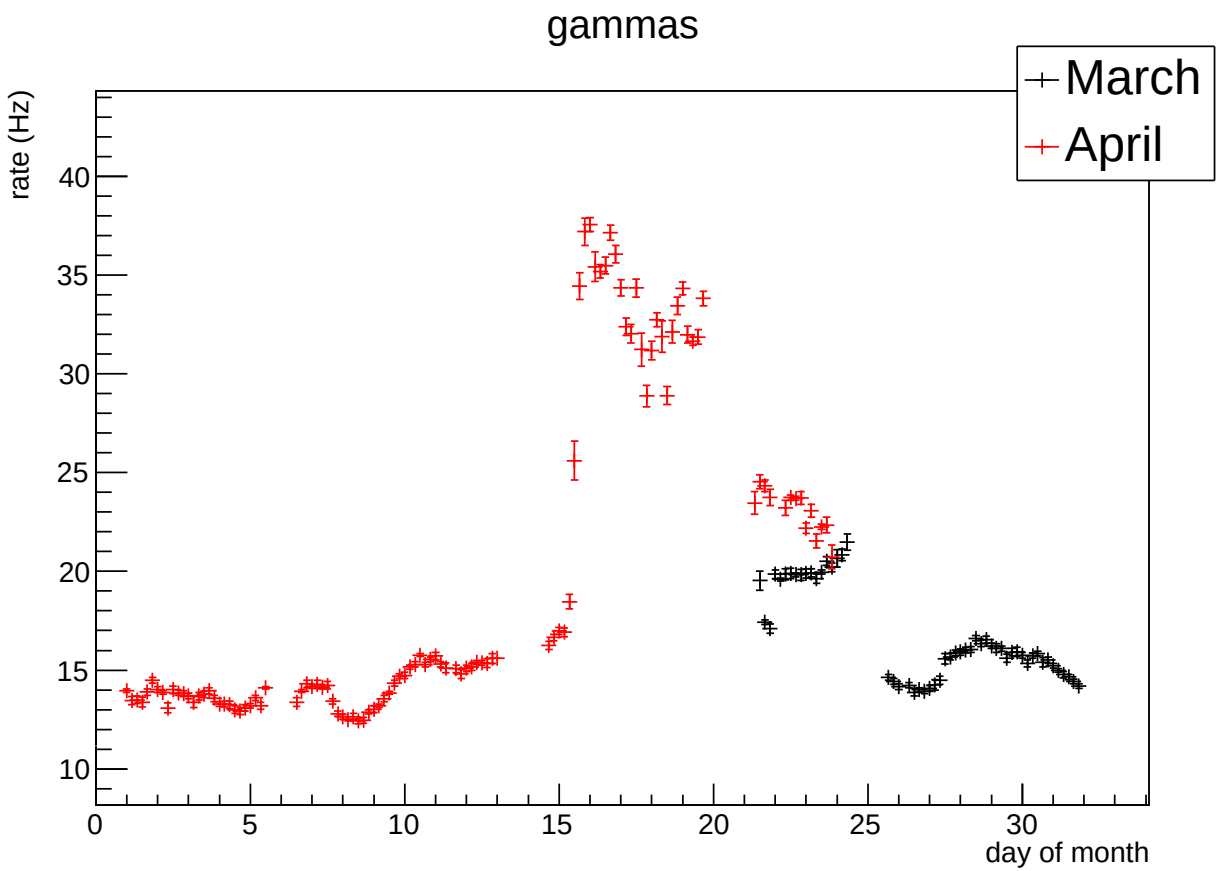
Raw data - muon system channel



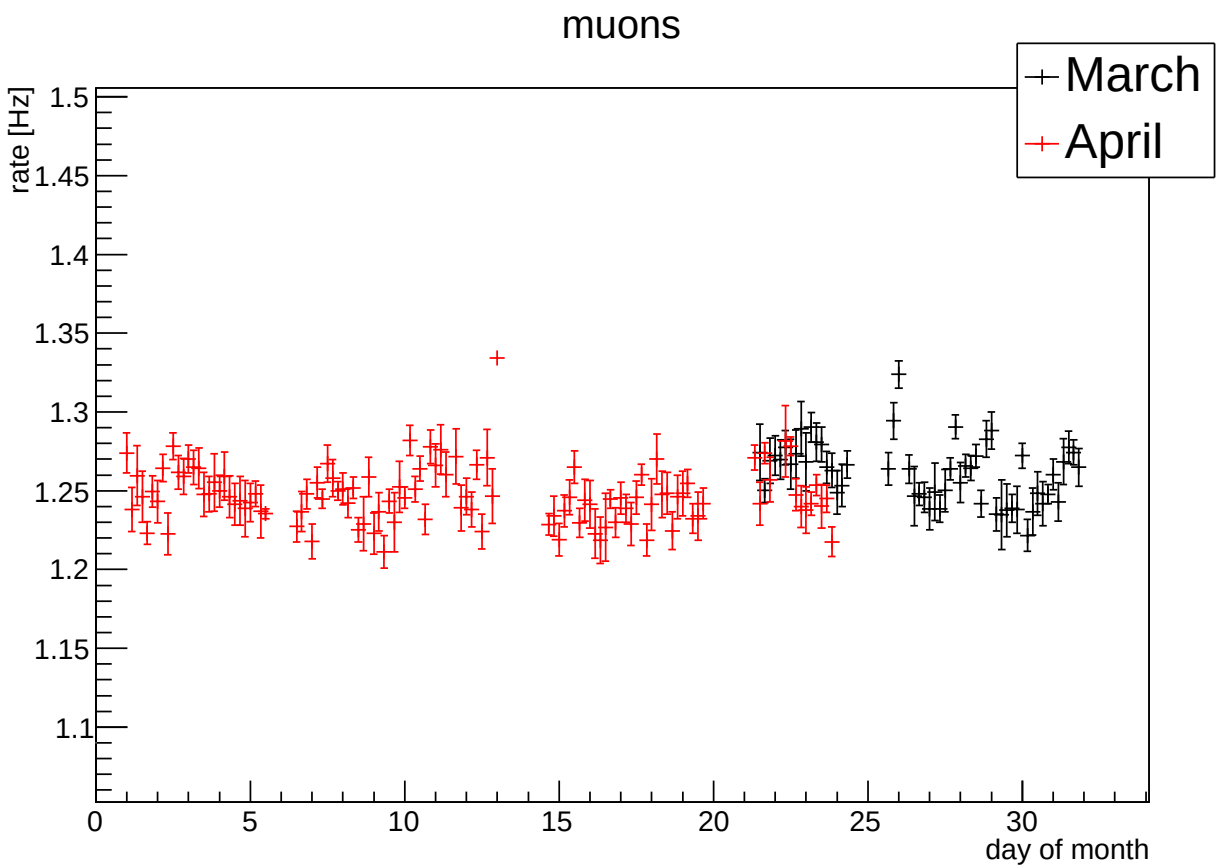
Neutron rate



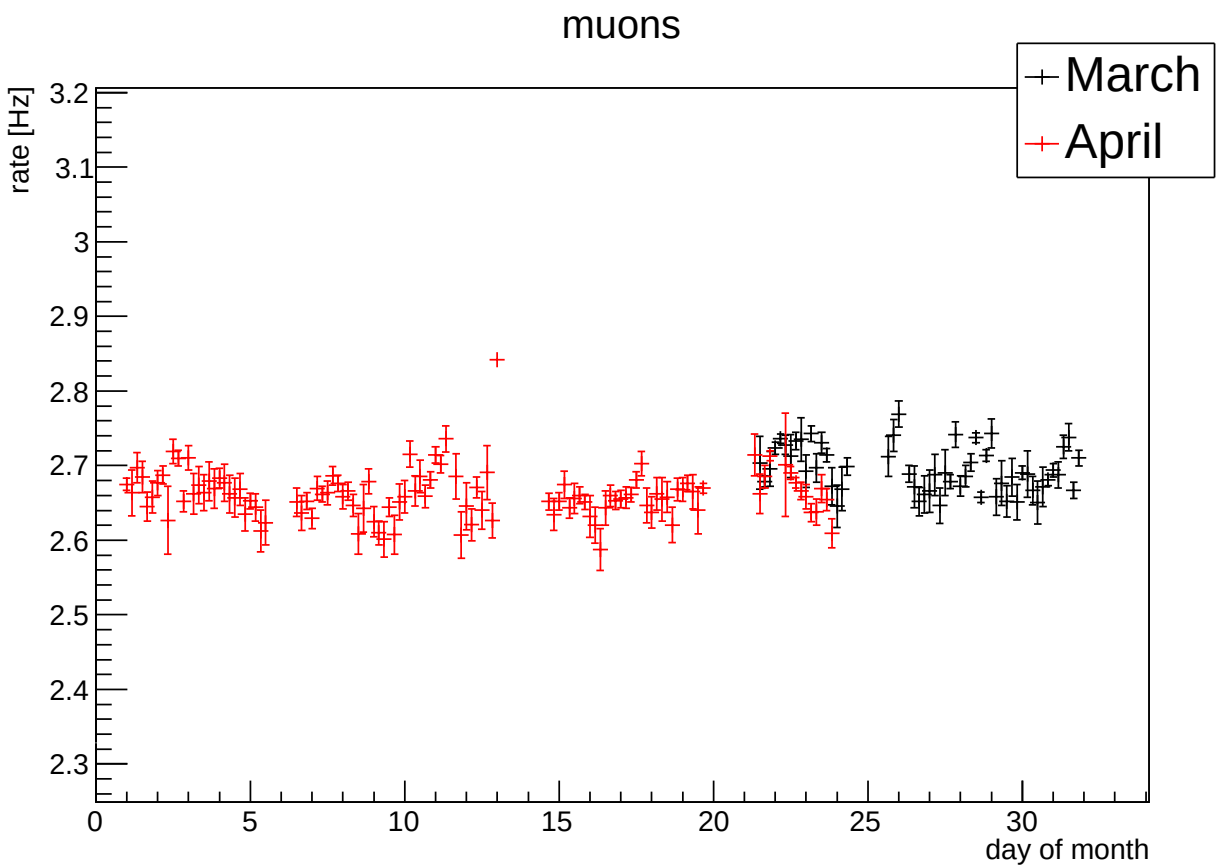
γ rate


gammas
March
April
rate (Hz)
40
35
30
25
20
15
10
0
5
10
15
20
25
30
day of month

NEMENIX μ rate



Muon system μ rate



Timing validation

- Digitiser boards share clocks
- Short delay between each board starting acquisition
- Digitiser timestamp is 32 bit counter @ 100 MHz
- Correction to timestamp removes start delay and 32 bit cycle
- Each digitiser board triggers individually
- Comparing timestamps of time ordered signals in different boards
- Should see peak at 0 due to coincidences
- Looks good in most boards except board 0
- Investigating why

Timing validation