

# QIE Internal Charge Injection

- We have started to be able to test internal charge injection (ICI).
  - When in ICI mode, a QIE will create an internal signal pulse when it receives a QIE reset signal.
  - There are eight possible signal pulse magnitudes.

[...]

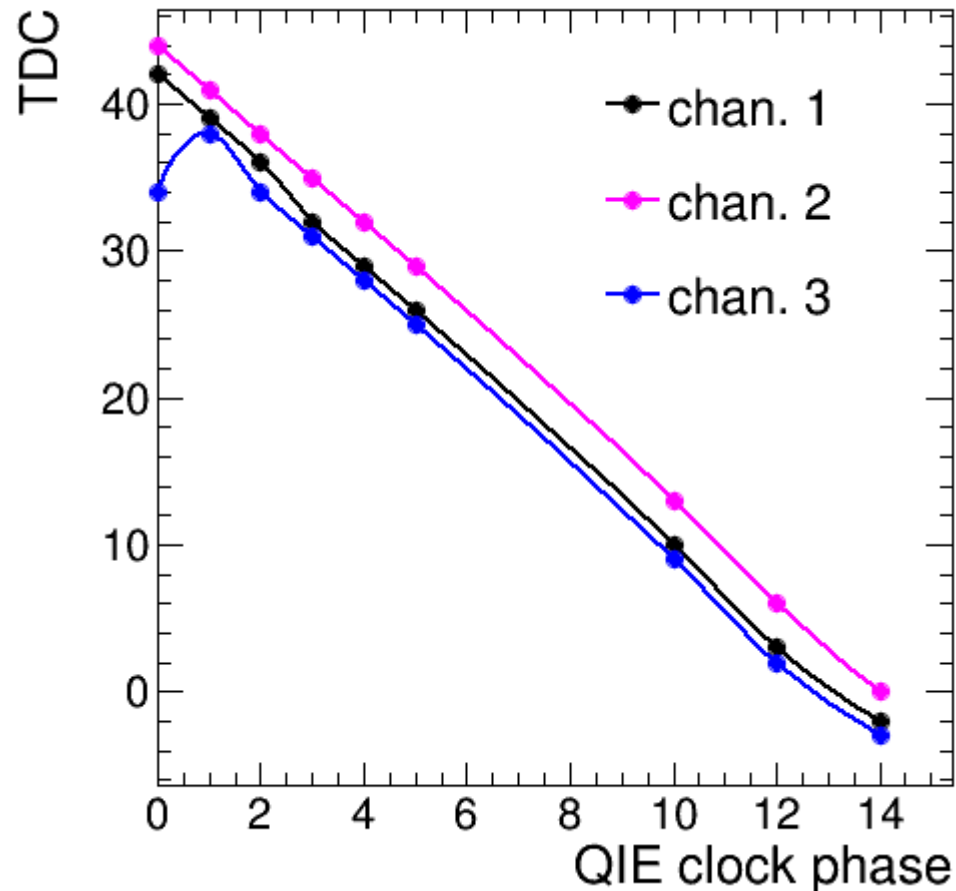
```
41 0FABC * TOP fiber 1
42 00300 CAPIDS      0   0   0   0
43 00304 ADCs        4   3   4   3
44 0FF04 LE-TDC     63  63  63  63
45 0FFFF TE-TDC      0   0   0   0
46 00000
47 0FABC * TOP fiber 1
48 01055 CAPIDS      1   1   1   1
49 00E10 ADCs       15  14  16  16
50 0FF0F LE-TDC     63  63  63  63
51 0FFFF TE-TDC      0   0   0   0
52 00000
53 0FABC * TOP fiber 1
54 011AA CAPIDS      2   2   2   2
55 01413 ADCs       20  20  19  17
56 0FF14 LE-TDC     63  63  63  63
57 0FFFF TE-TDC      0   0   0   0
58 00000
59 0FABC * TOP fiber 1
60 002FF CAPIDS      3   3   3   3
61 00405 ADCs        4   4   5   2
62 0FF04 LE-TDC     63  63  63  63
63 0FFFF TE-TDC      0   0   0   0
64 00000
```

[...]

uHTR SPY example (orbit-synced)

# QIE Internal Charge Injection

- We can use the ICI to test the TDC: inject at various QIE phase settings.



- We're developing an acceptance test that does this automatically.

# 904 Triggered Readout

- We're able to see the ICI signal using L1ACapture with the uHTR.
- We have an XDAQ application that can read out triggered data.
  - We're still fixing a few bugs.