AFE characterization

Antoine

CBPM meeting: April 28, 2023

Previously

Unity gain AFE with more amplification: data collected Tuesday March 21

✗ instr elog 2088, 2087

✗ 2 AFEs of module sitting at 12W (ctacf133) were modified by Len for more signal amplification following Bob's design (see details here): x2.5 amplitude measured on the bench

from Bob

Object is to test fixed gain and variable gain with full signal amplitude.

1. Remove: R67 49.9 ohm (extra termination)
   Replace: DNP

2. Remove: R63, R66, R68 16.9 ohm (6dB attenuator)
   Replace: 0 ohm jumper

3. Remove: R58, R84 49.9 ohm (excess termination)
   Replace: 100 ohm

4. Remove: R72, R96 49.9 ohm (extra termination)
   Replace: DNP

5. Remove R71, R75, R94, R98 33 ohm (excess termination)
   Replace: 100 ohm

Now

AFEs deployed in the tunnel have a network filter different from the schematic

The undamaged AFEs we have been using have the schematic filter version:

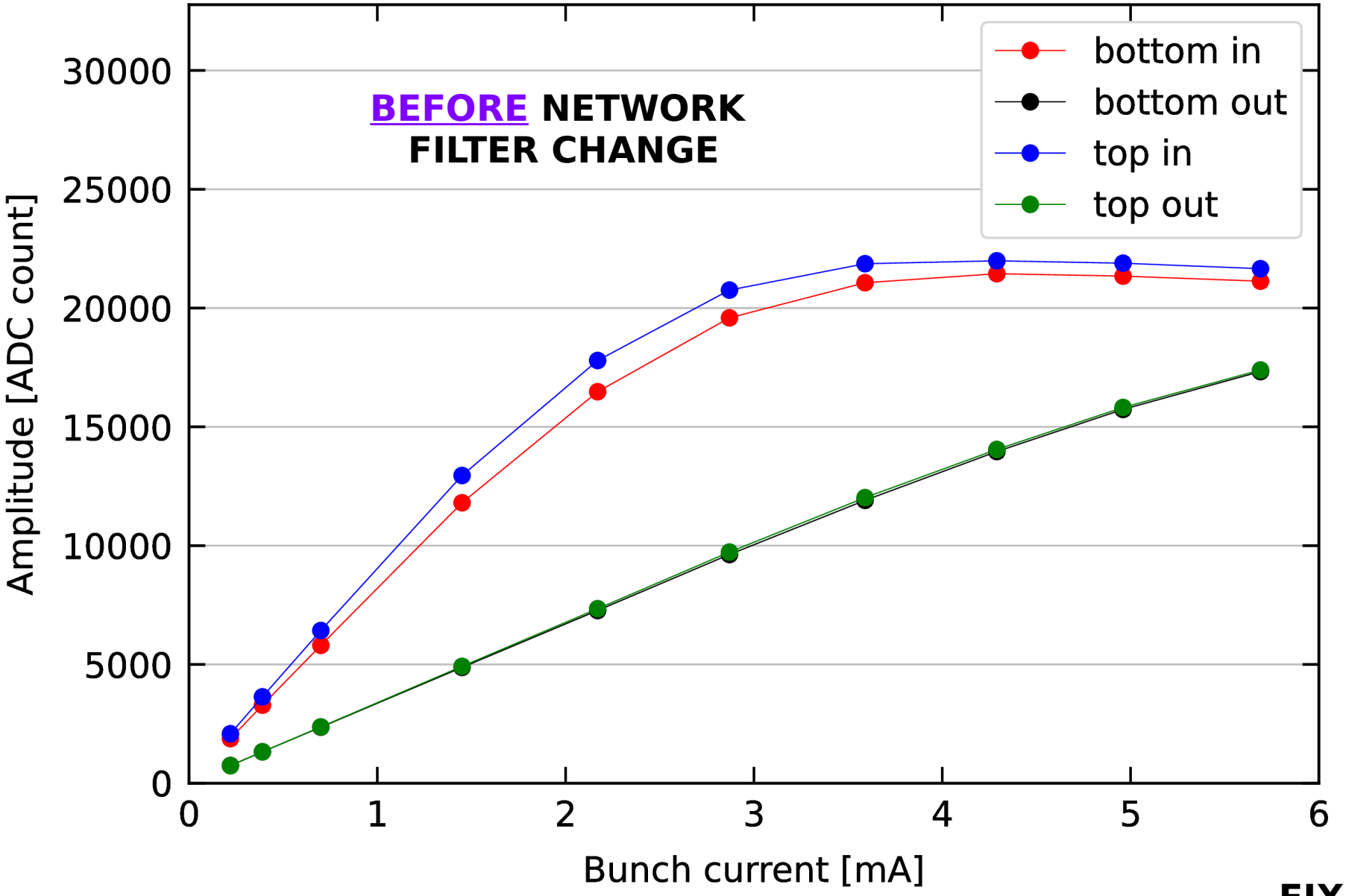
- ✗ one of the two already modified AFE cards of ctacf133 has been modified to change the schematic filter to the deployed version

Machine study time on Tuesday April 25, 2023:

- ✗ instr elog 2102

Amplitude vs bunch current

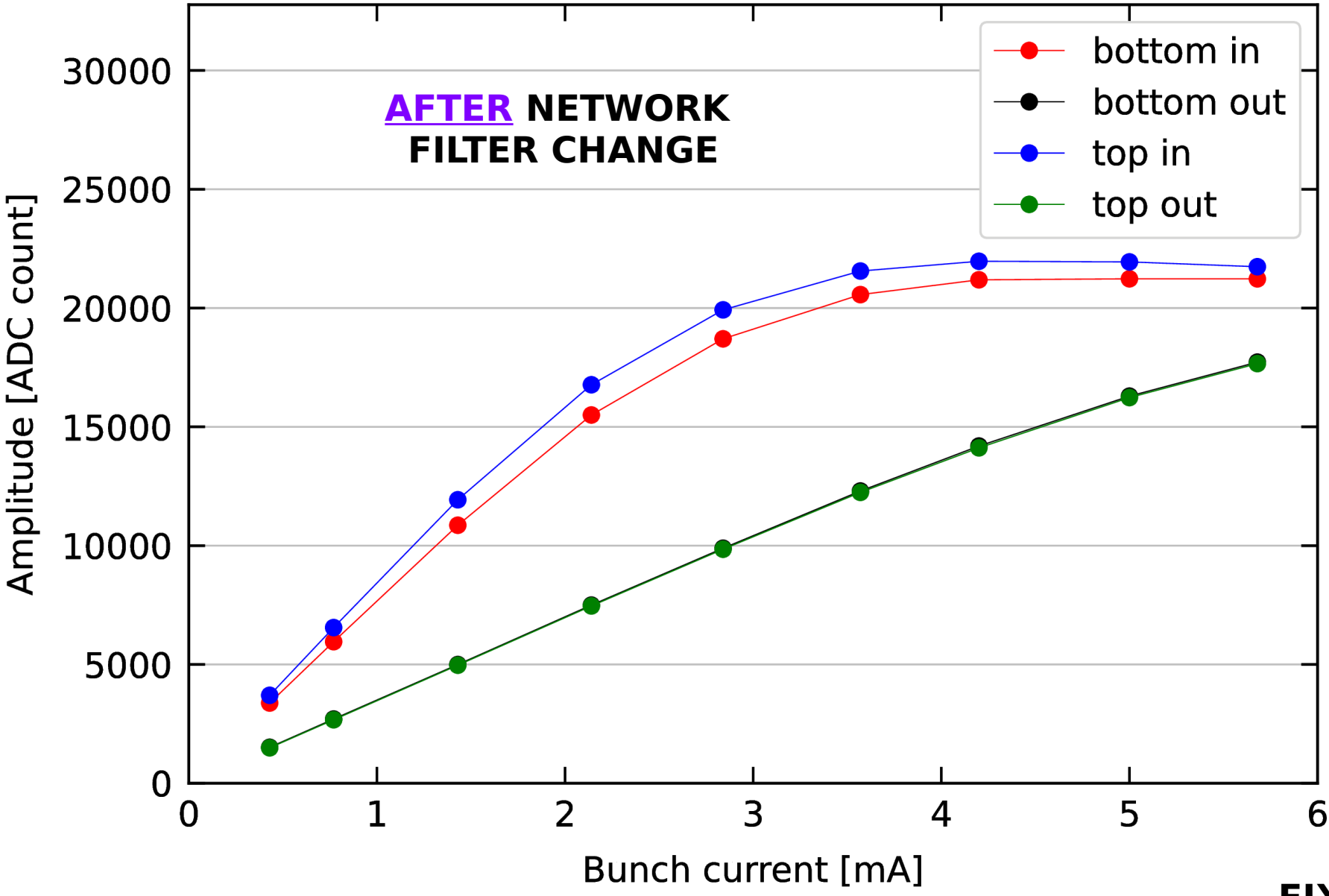
12W (ctactf133), peak-aligned at each current step – Tuesday **3/21**



FIXED GAIN

Amplitude vs bunch current

12W (ctactf133), peak-aligned at each current step – Tuesday **4/25**



FIXED GAIN

Additional materials