

AFE characterization

Antoine

CBPM meeting: May 26, 2023

Where we are at

Previously: 10 pF capacitors (C146, C147 forming voltage divider) removed

- x factor ~ 2 amplification expected

- x beam characterization on Tuesday May 9: [instr elog 2115](#)

Previously: 33 ohms R134 resistor replaced by 0 ohm resistor

- x beam characterization on Tuesday May 16: [instr elog 2119](#)

Now:

- x TOP IN card has R134 set to 10 ohm

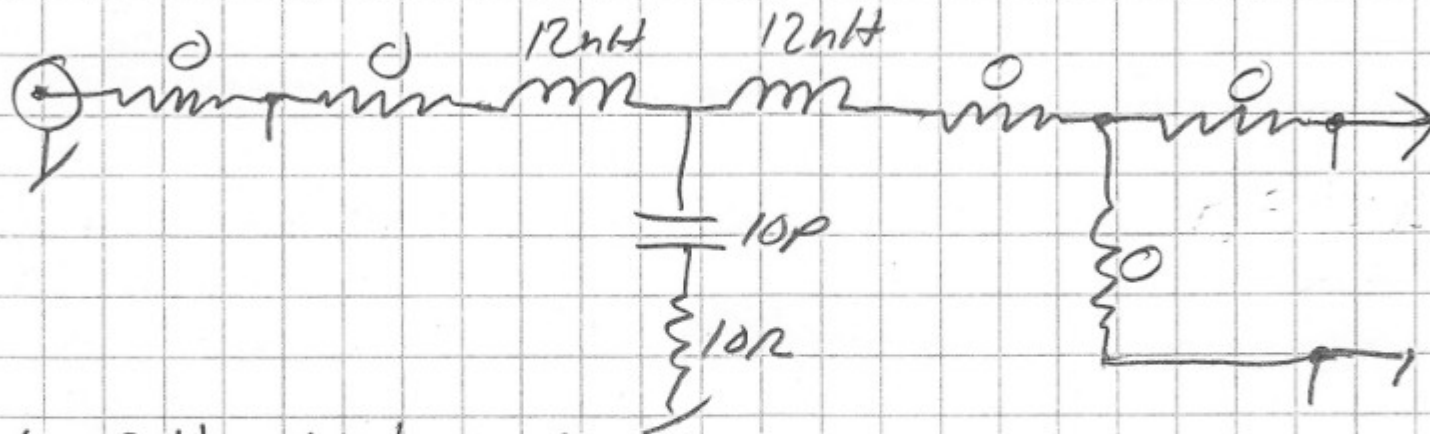
- x BOT IN card has added capacitors to “make the filter into two pi sections instead of a single T section”, R134 set to 0 ohm

- x beam characterization on Tuesday May 23: [instr elog 2124](#)

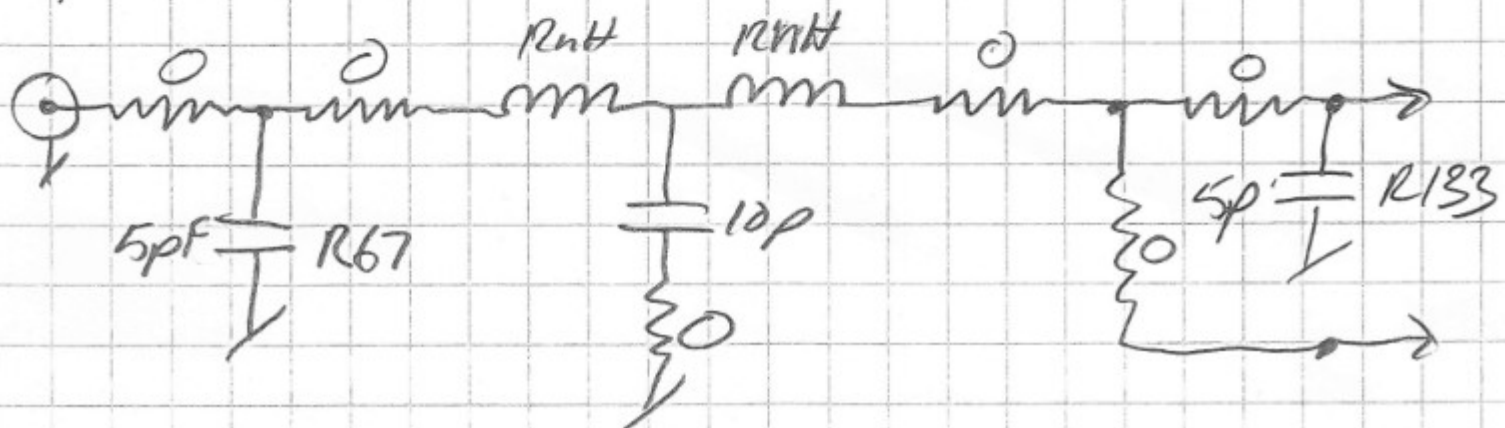
Card modifications

Lott Hudson
5-23-23

CARD 0, TOP INSIDE: ↓

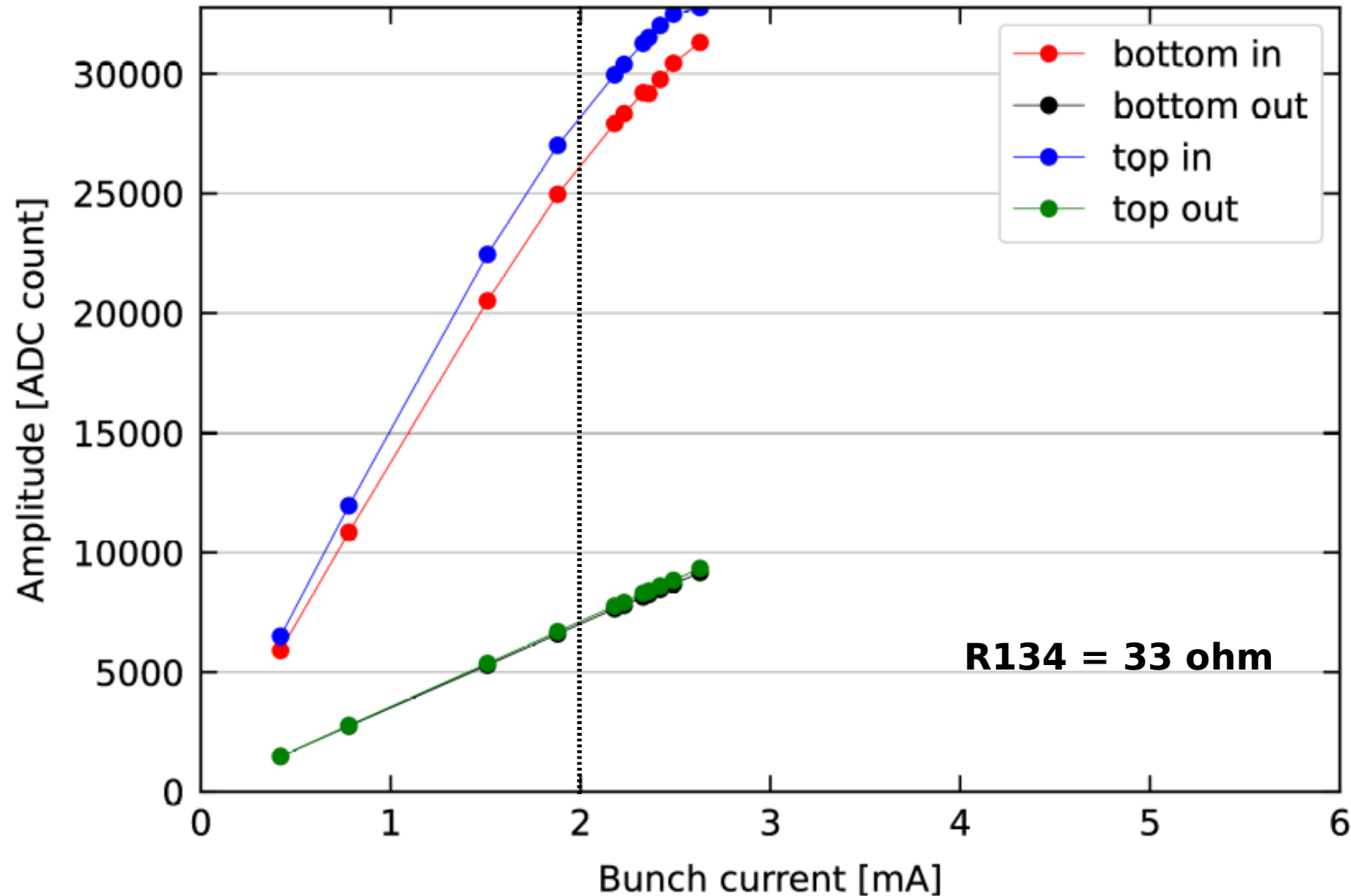


CARD 1, Bottom Inside: ↓



Amplitude vs bunch current

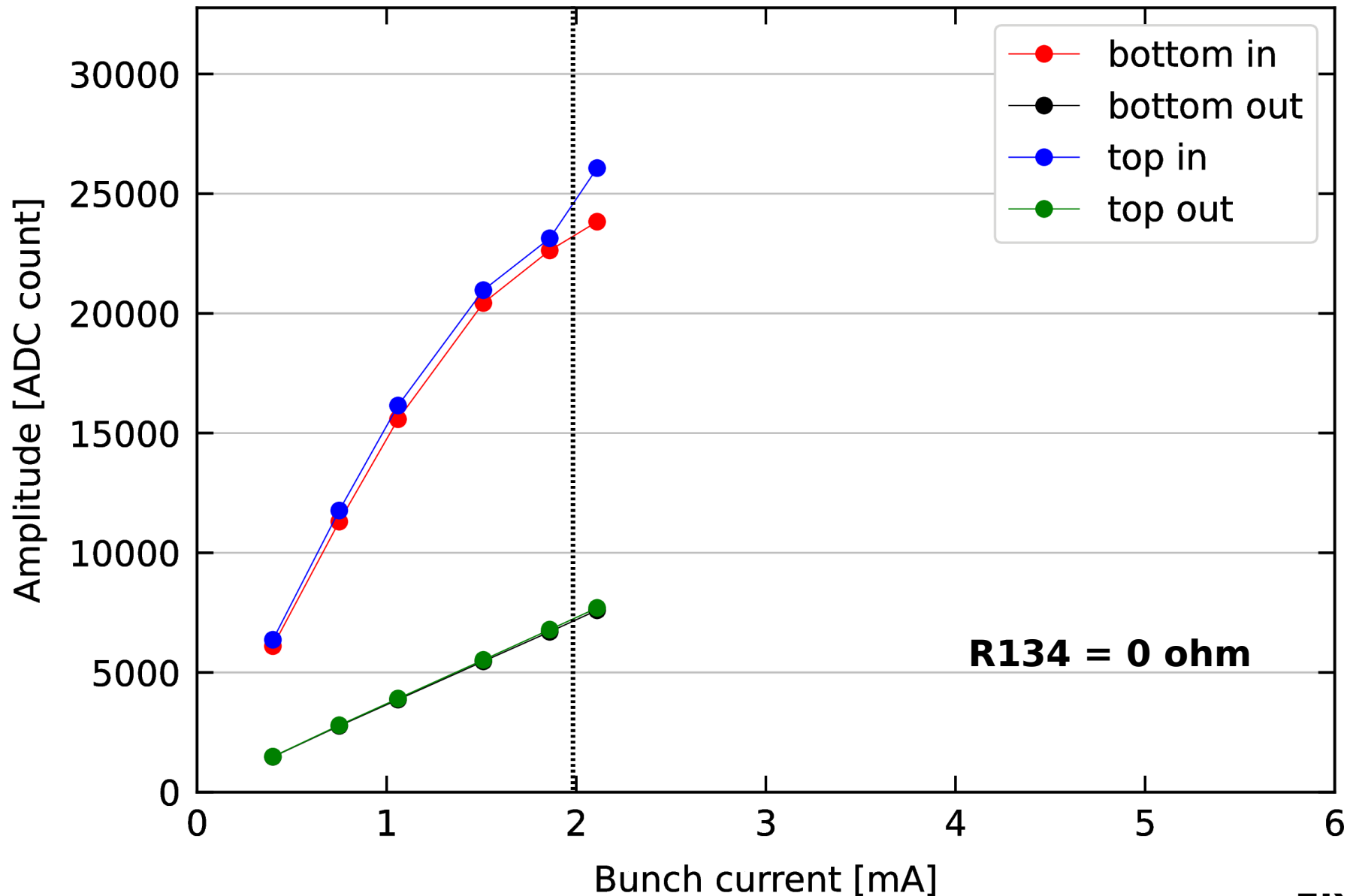
12W (ctactf133), peak-aligned at each current step – Tuesday **5/9**



FIXED GAIN

Amplitude vs bunch current

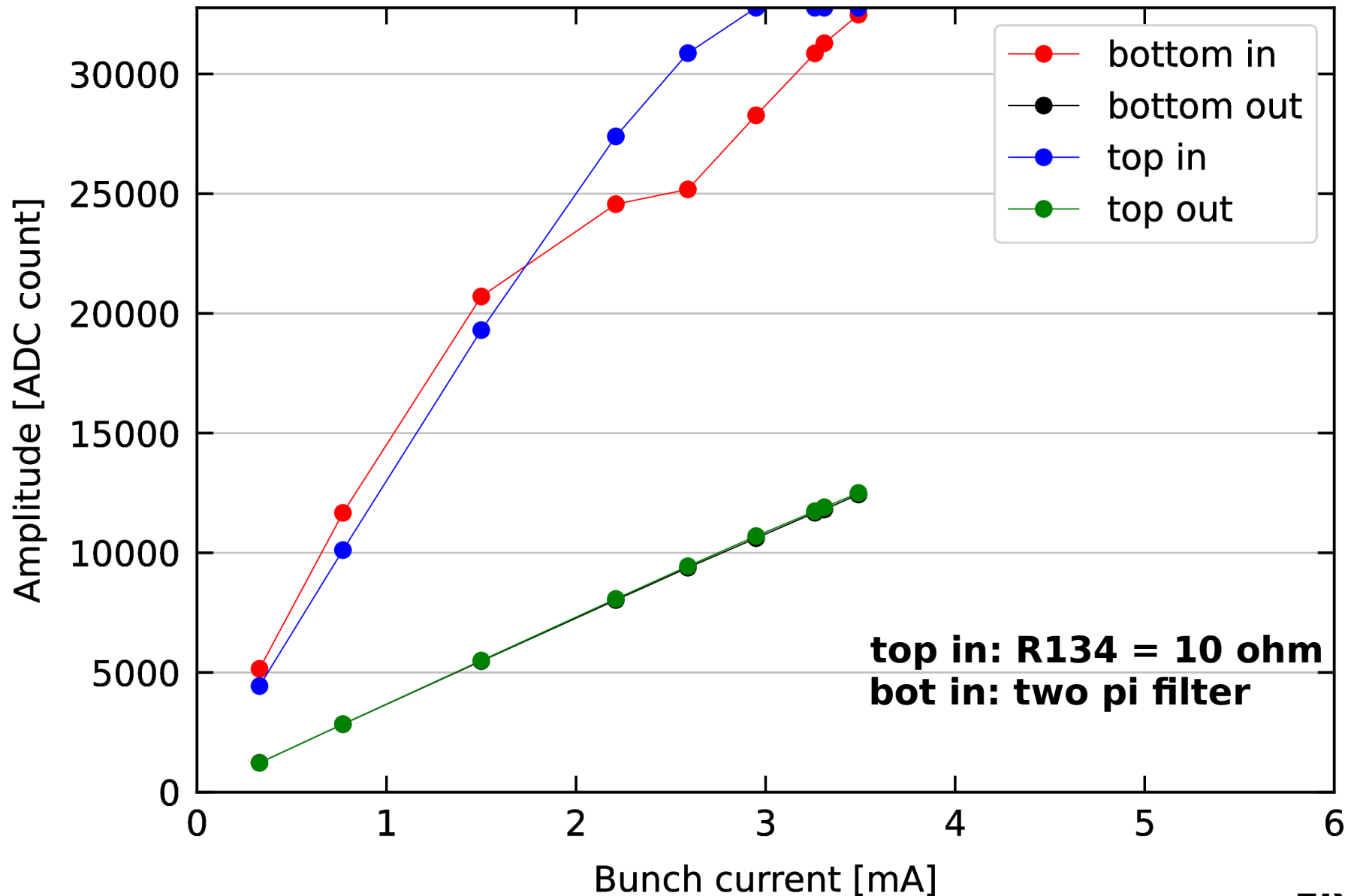
12W (ctactf133), peak-aligned at each current step – Tuesday **5/16**



FIXED GAIN

Amplitude vs bunch current

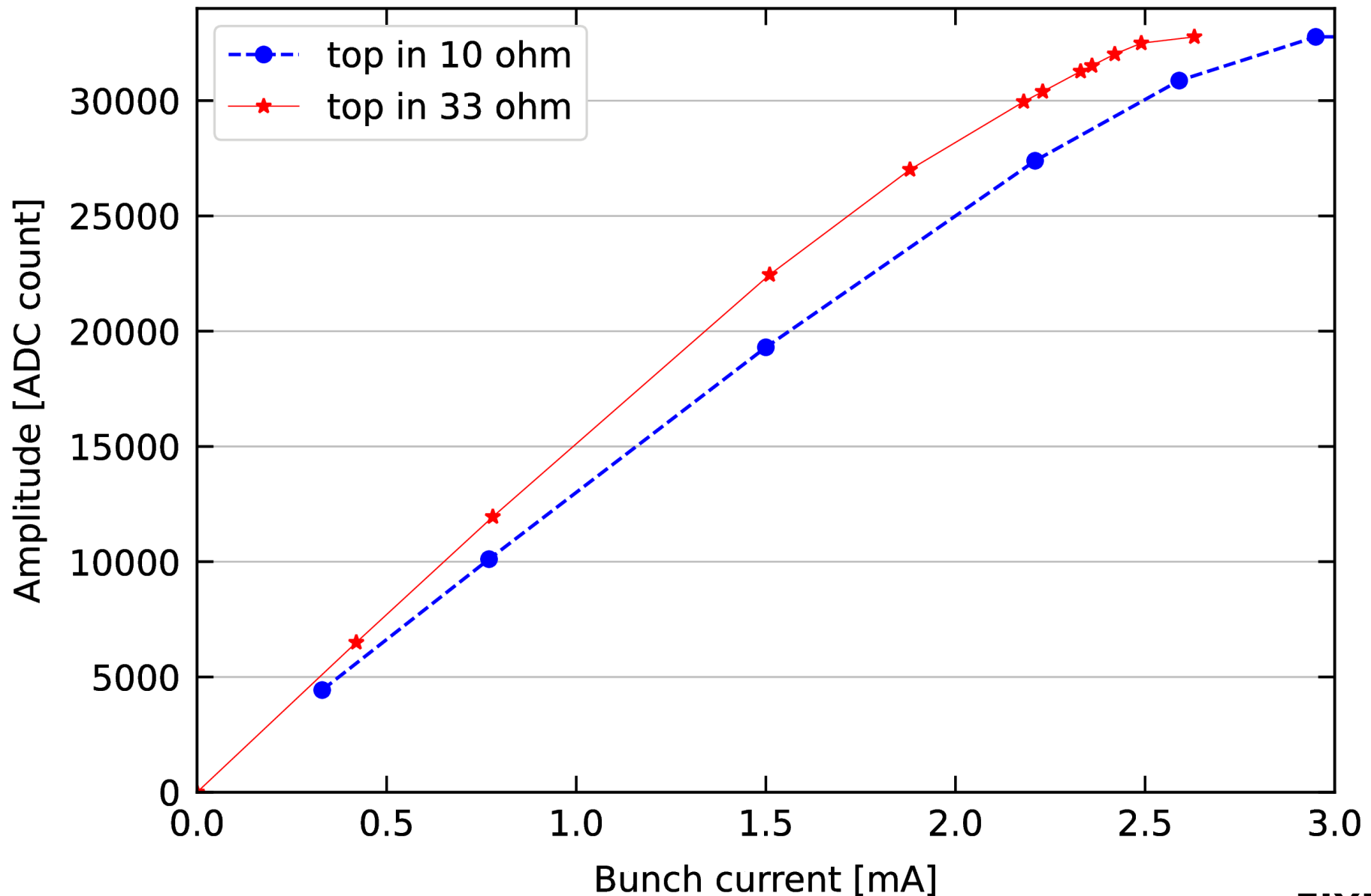
12W (ctactf133), peak-aligned at each current step – Tuesday **5/23**



FIXED GAIN

Amplitude vs bunch current

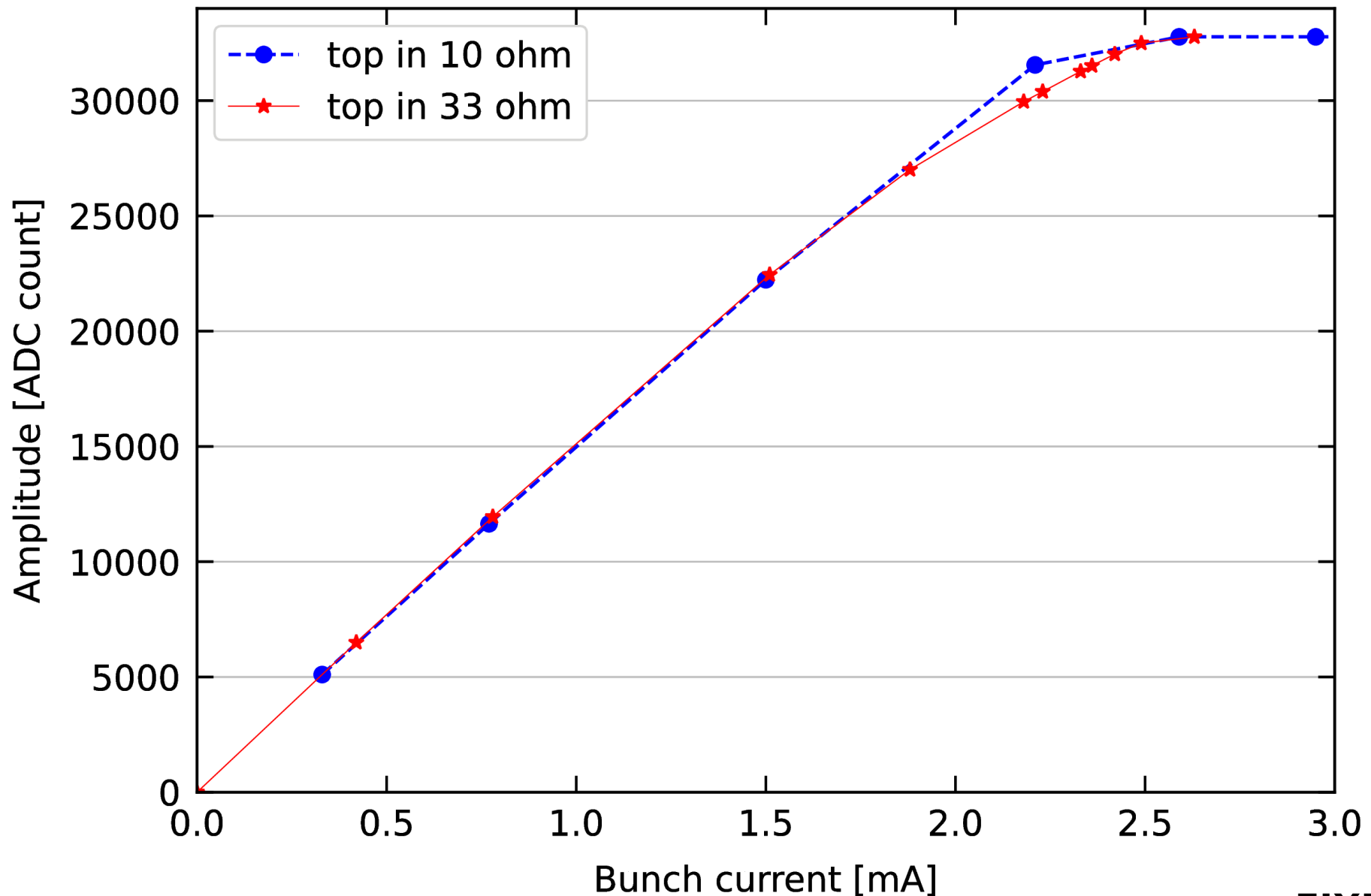
10 vs 33 ohm - raw data



FIXED GAIN

Amplitude vs bunch current

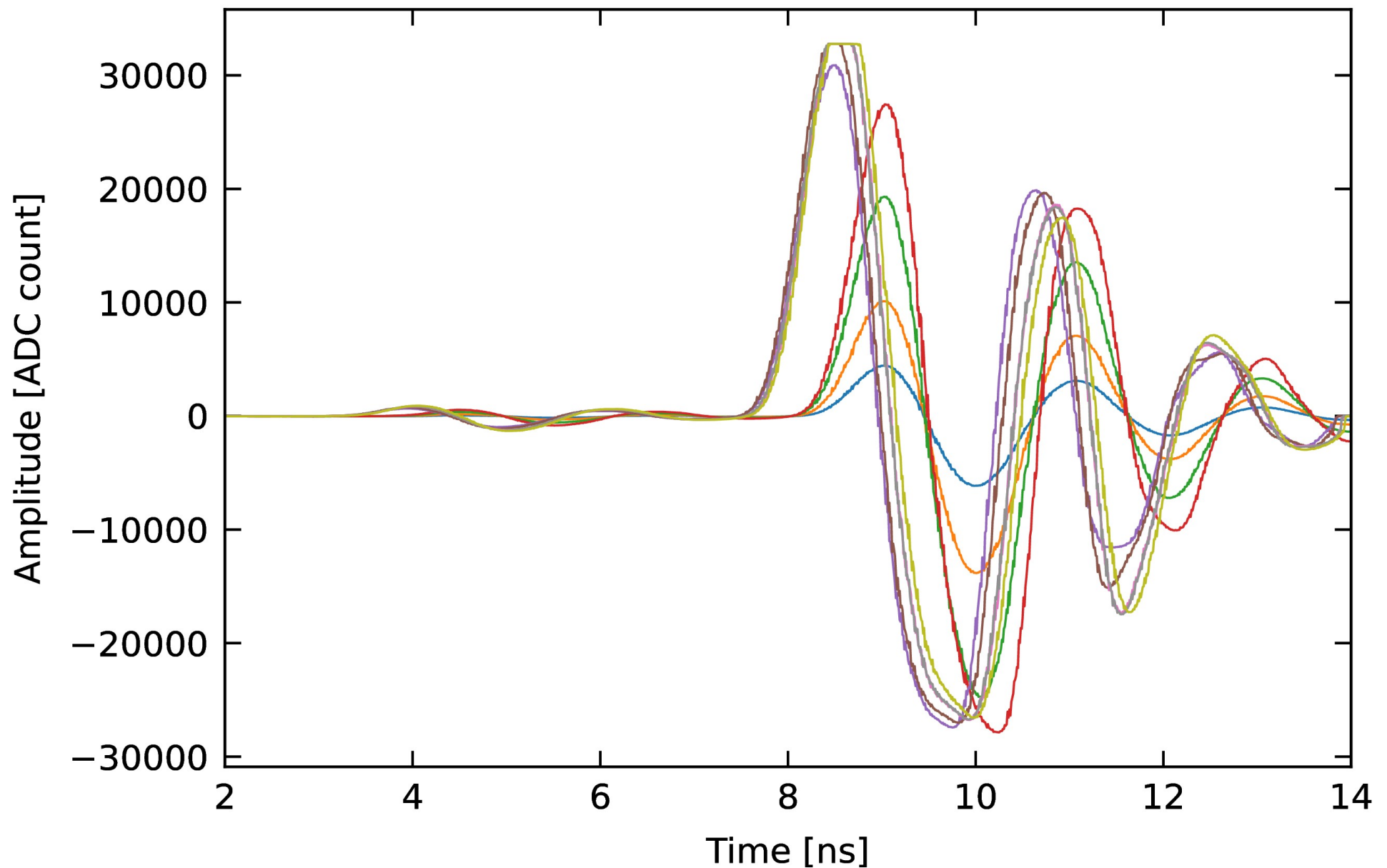
10 vs 33 ohm - scaled gain of 10 ohm lowest current data point



FIXED GAIN

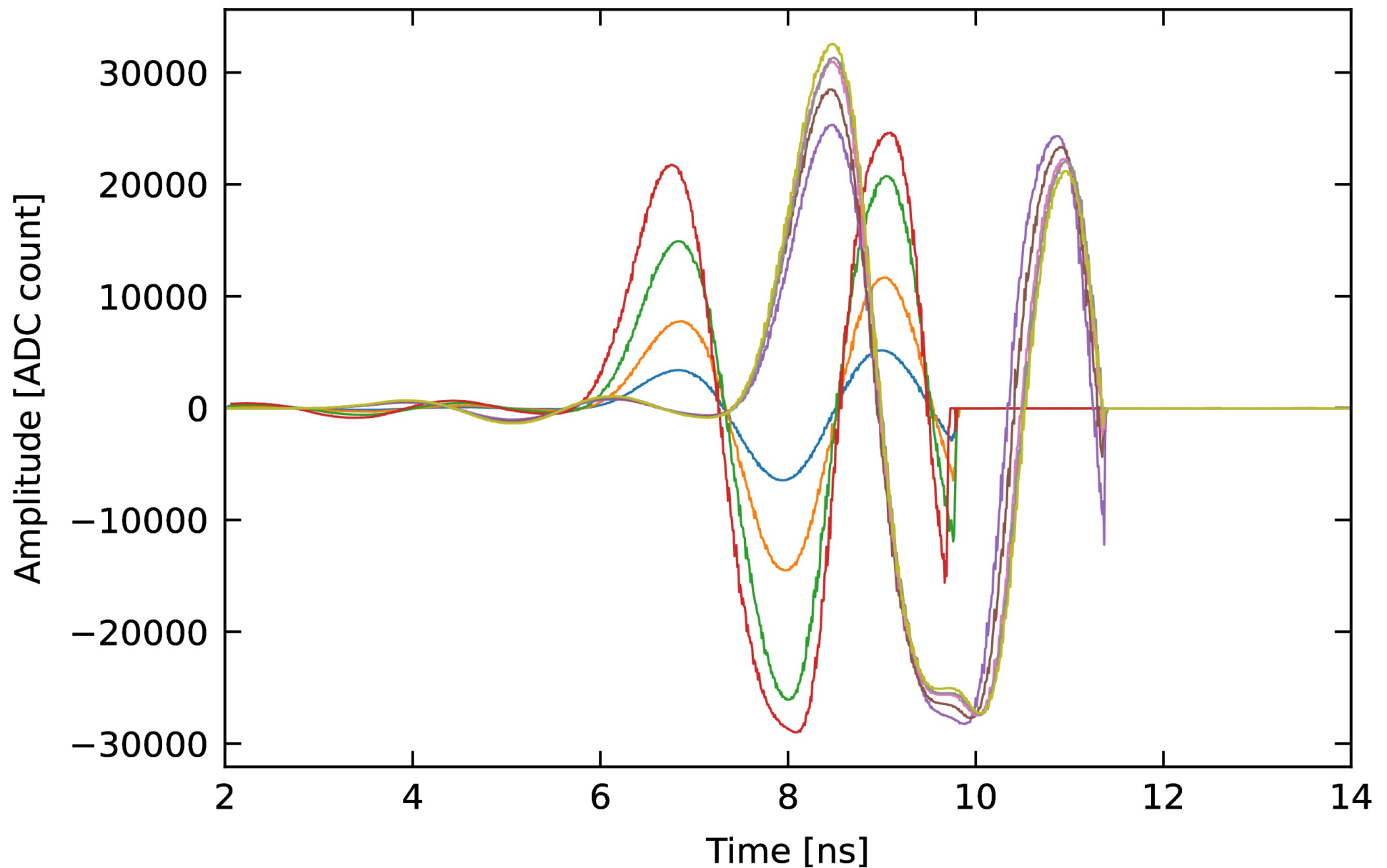
Waveform vs beam current

TOP IN (modified card)



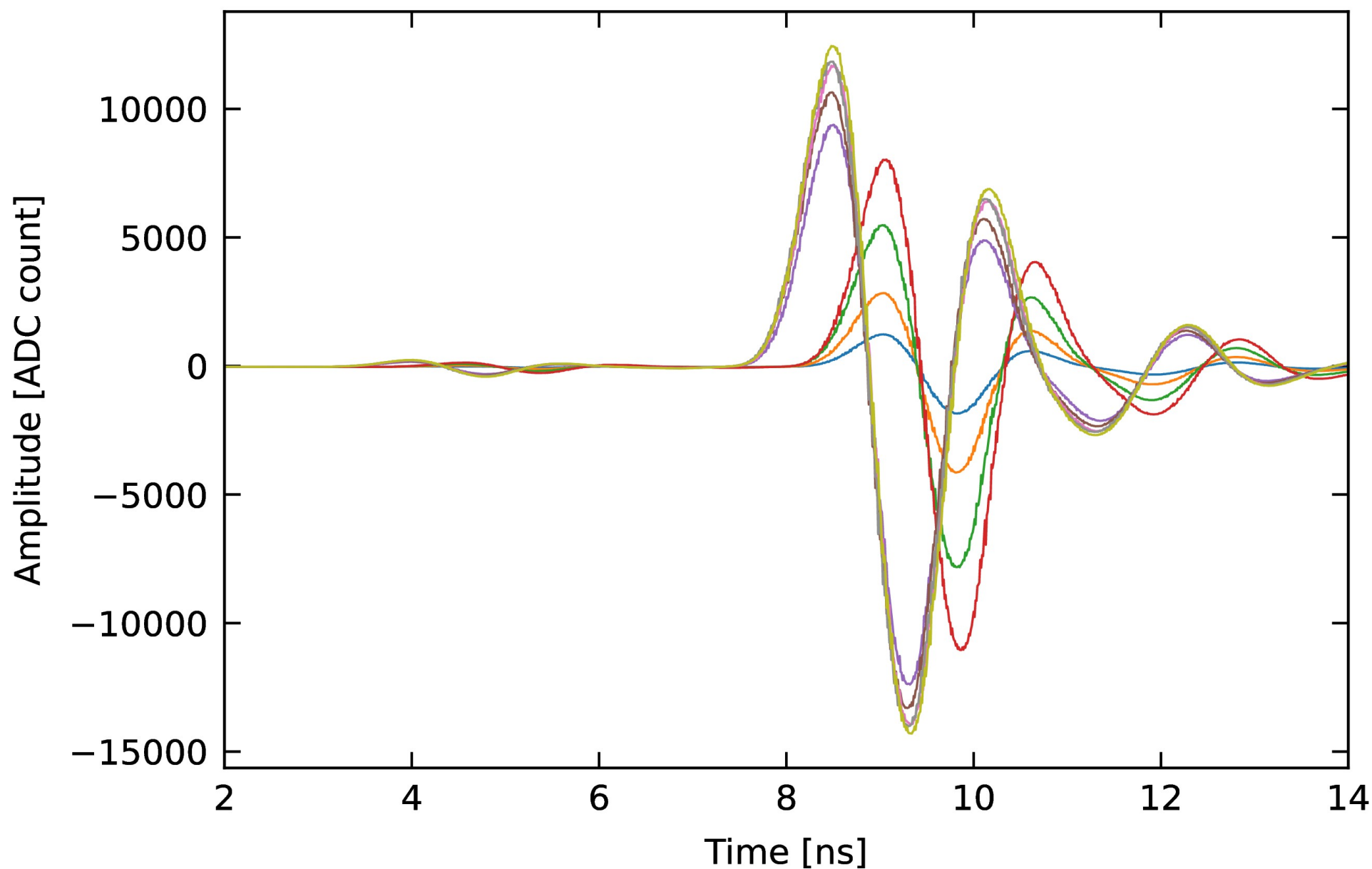
Waveform vs beam current

BOT IN (modified card)



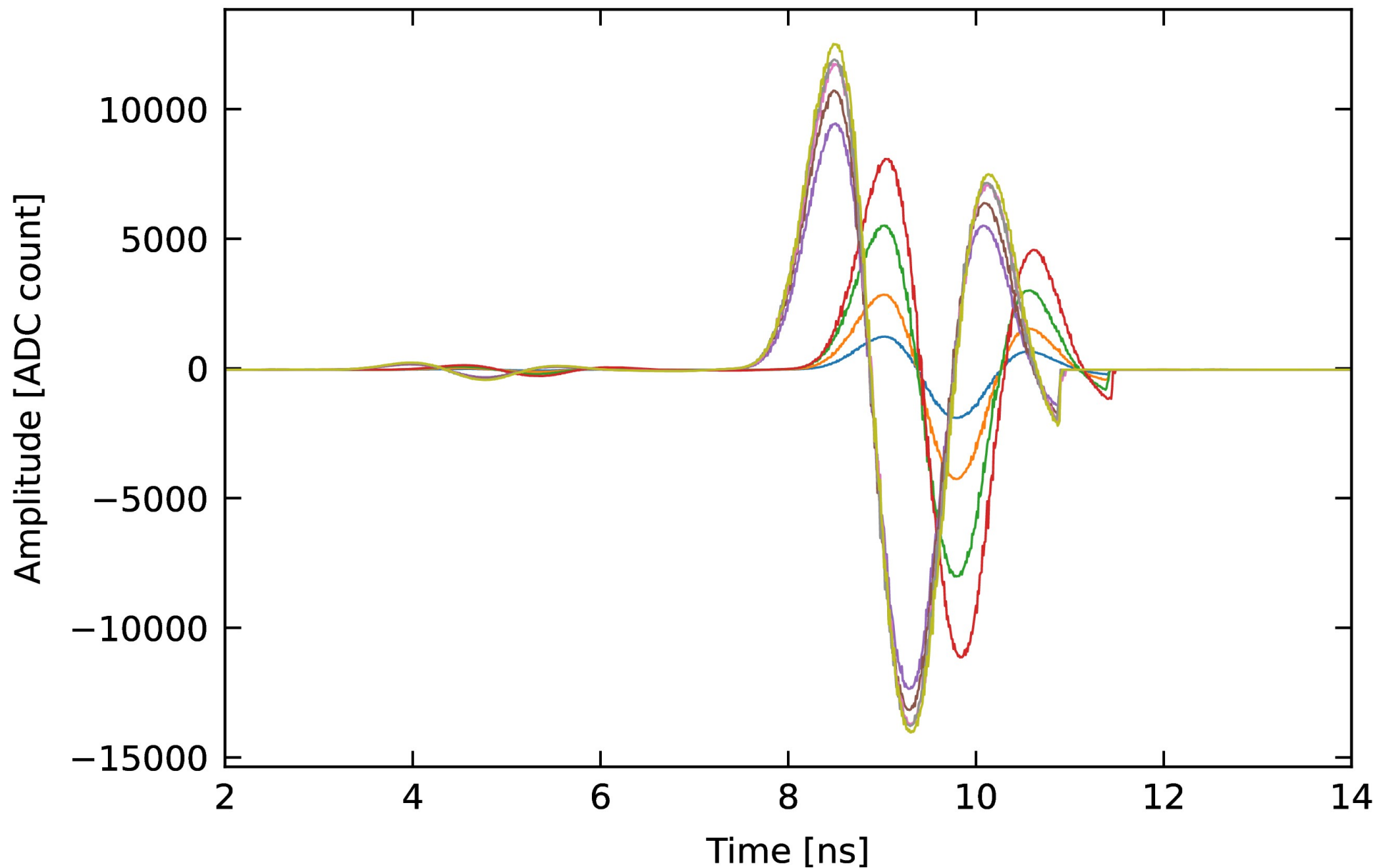
Waveform vs beam current

BOT OUT (unmodified card)



Waveform vs beam current

TOP OUT (unmodified card)



Additional materials