

CBPM waveform time skipping

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Waveform time skipping

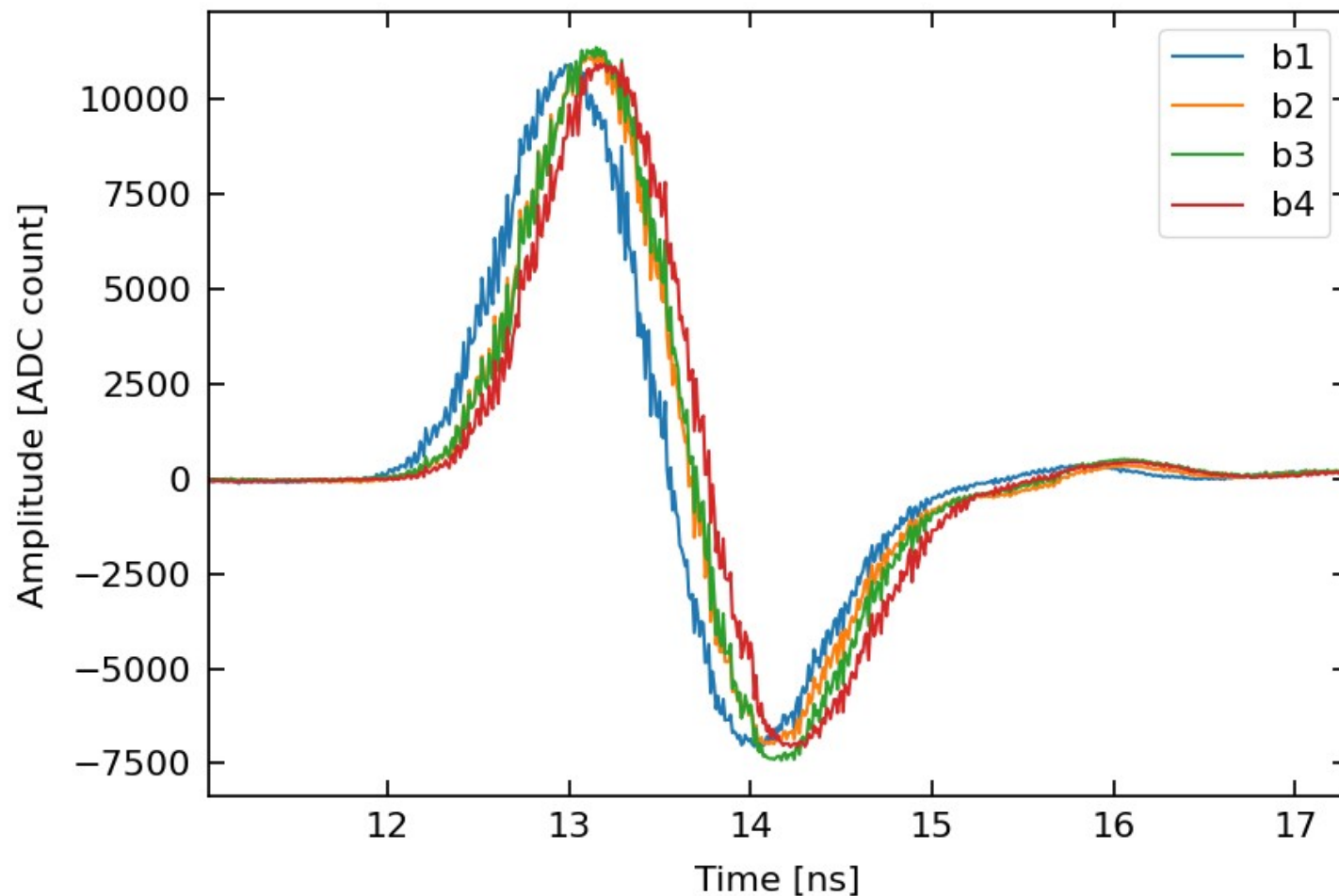
Studies on the bench made possible by new setup and new DSP firmware, CBIC software. Collected waveform data averaging up to 200 turns with ctacf122:

- used timing card, see [instr. elog 2411](#)
 - 4 channels all together: about 12 kADC counts
 - 1 channel at the time: about 30 kADC counts
- brand new card, see [instr. elog 2414](#):
 - 1 channel at a time: about 30 kADC counts

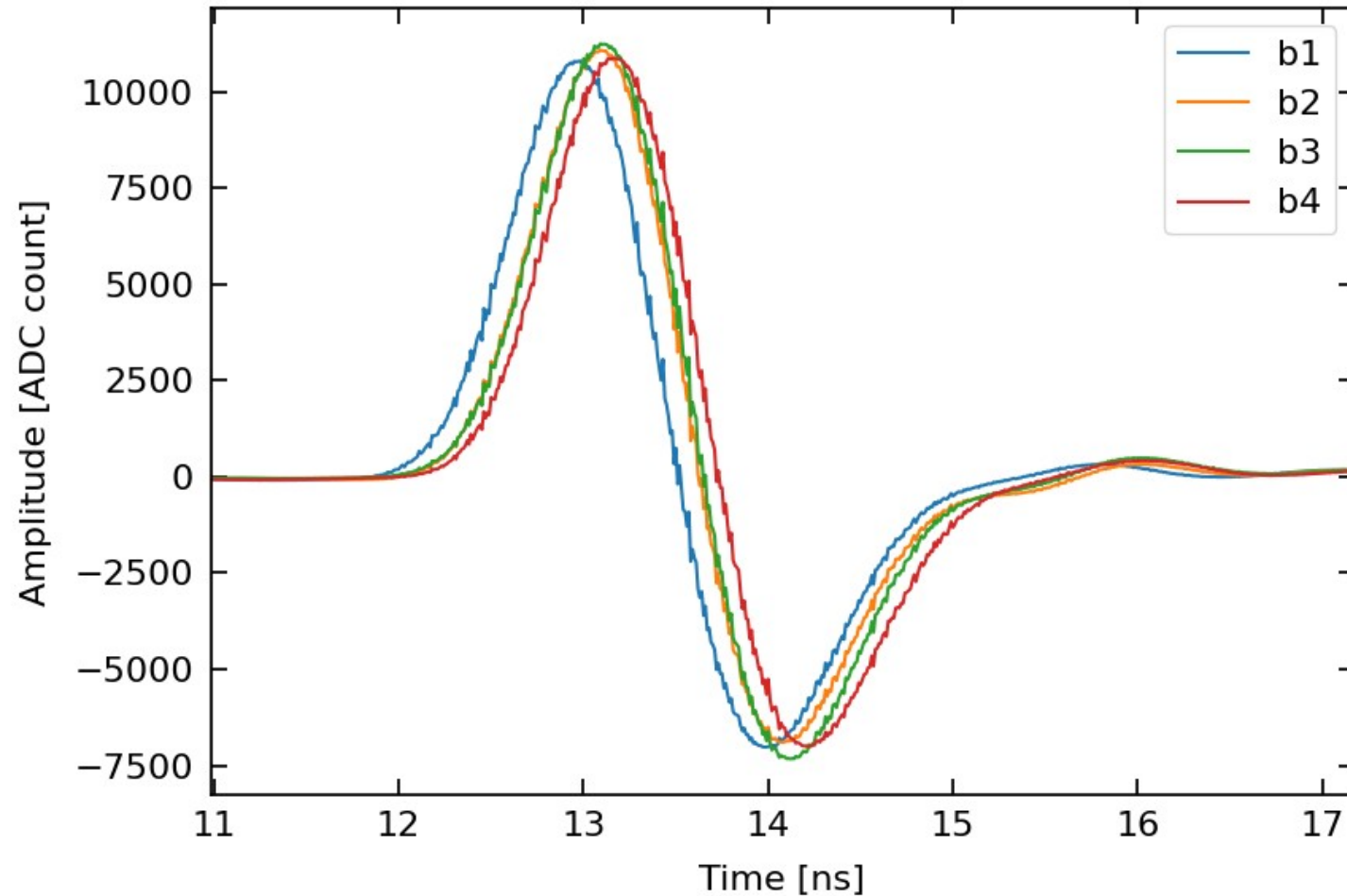
Caveat: cannot align the waveforms with bench setup (timeout issue)

Used timing card

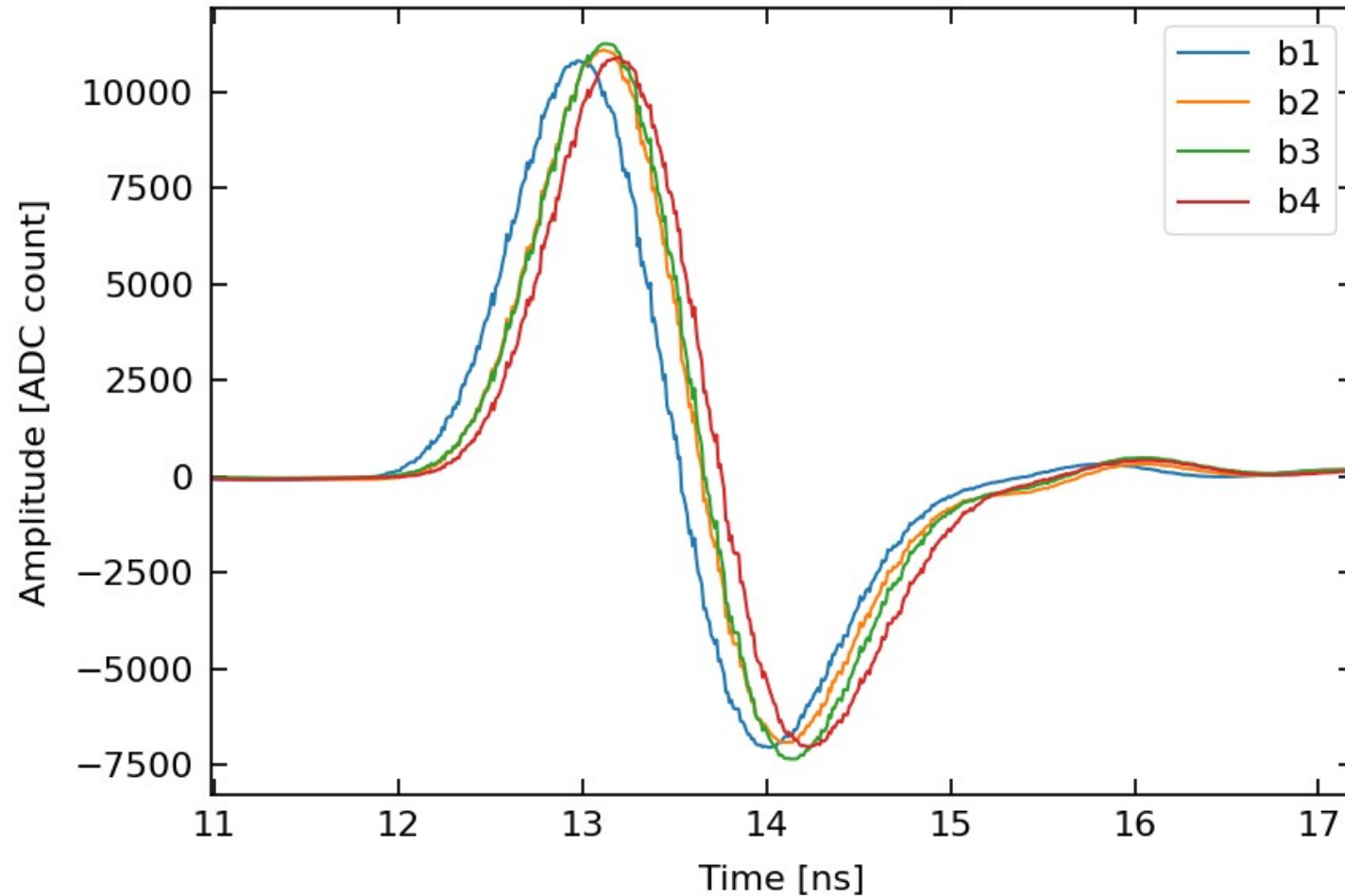
4 channels: 1-turn average



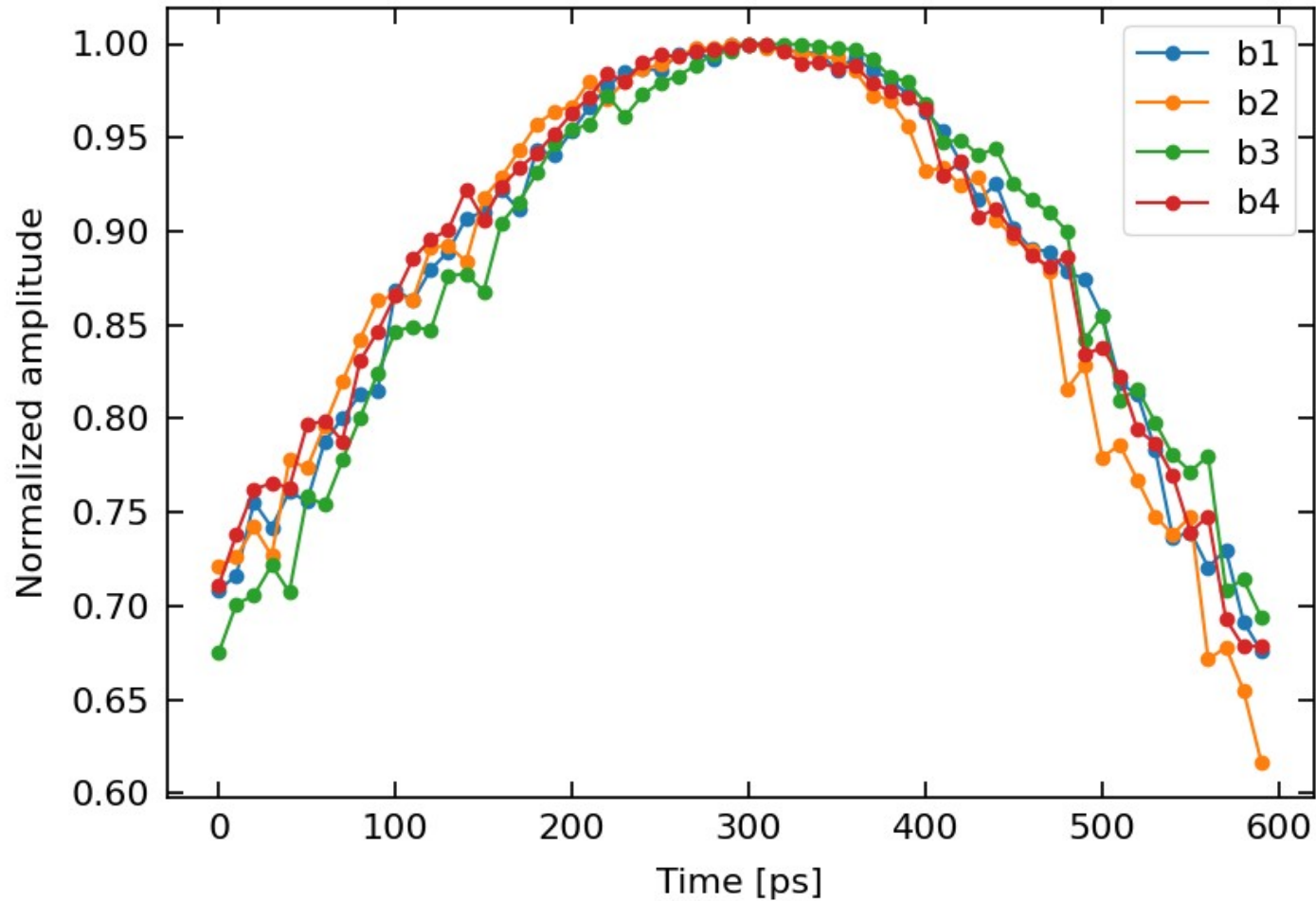
4 channels: 100-turn average



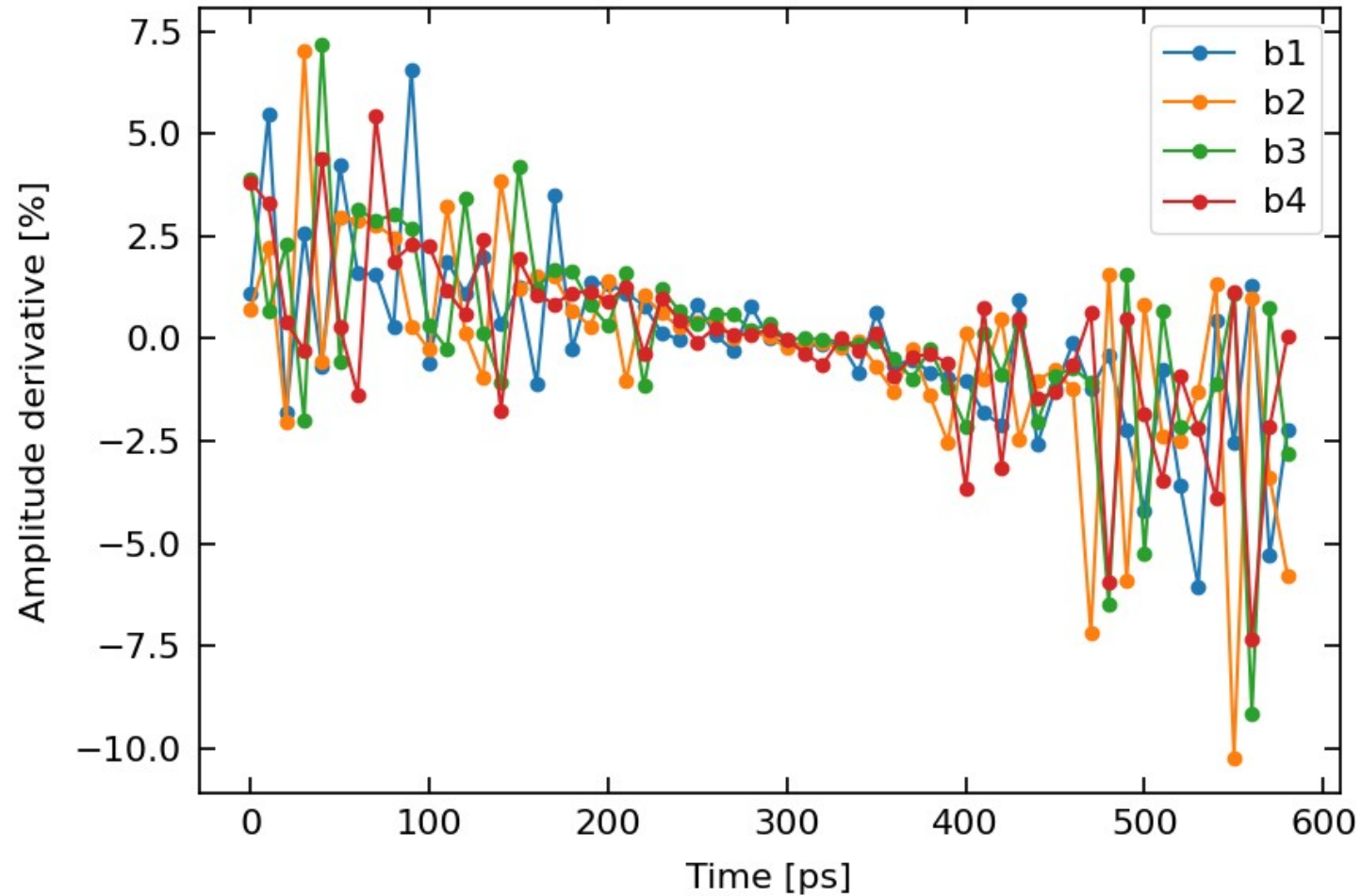
4 channels: 200-turn average



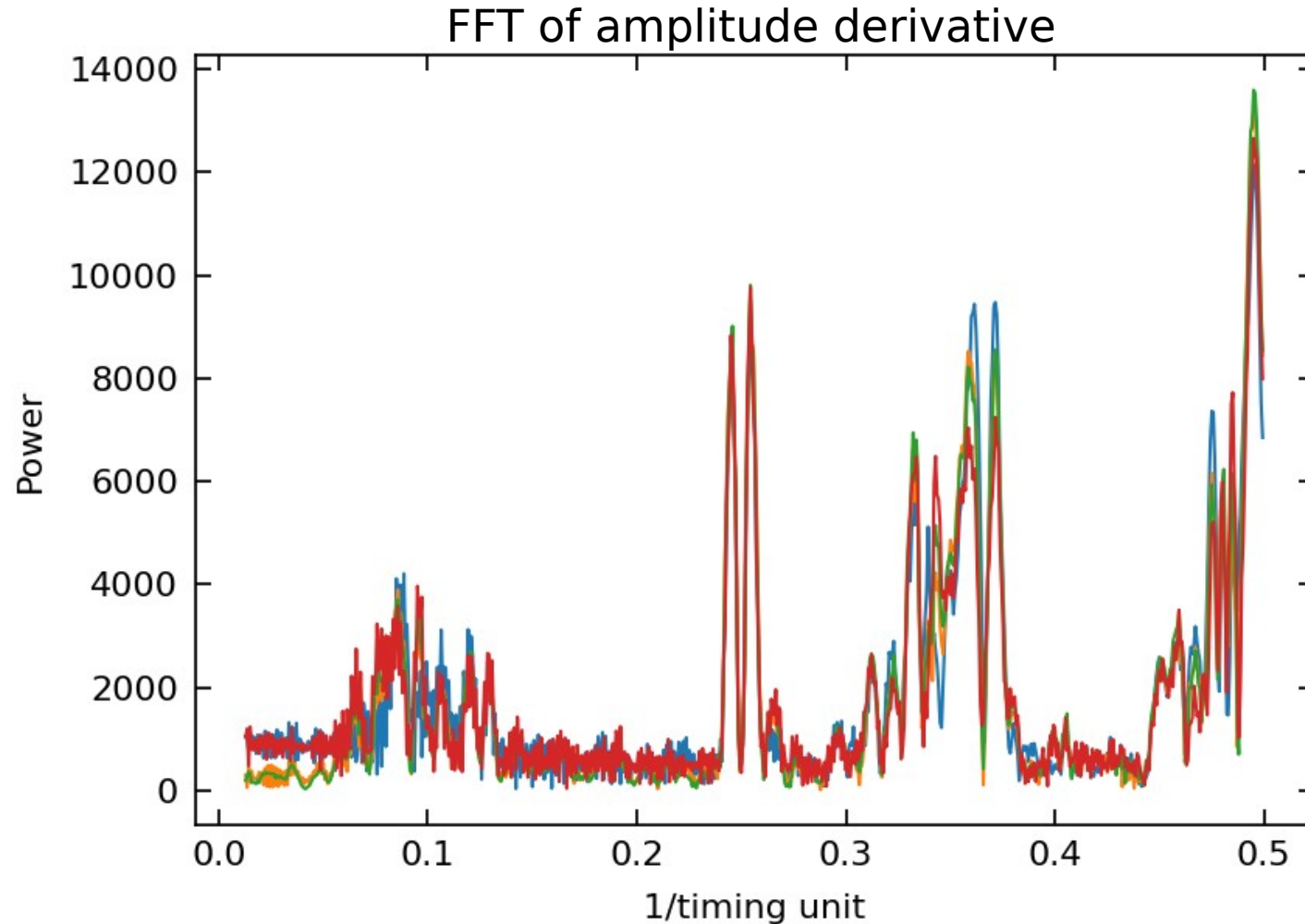
4 channels: 200-turn average



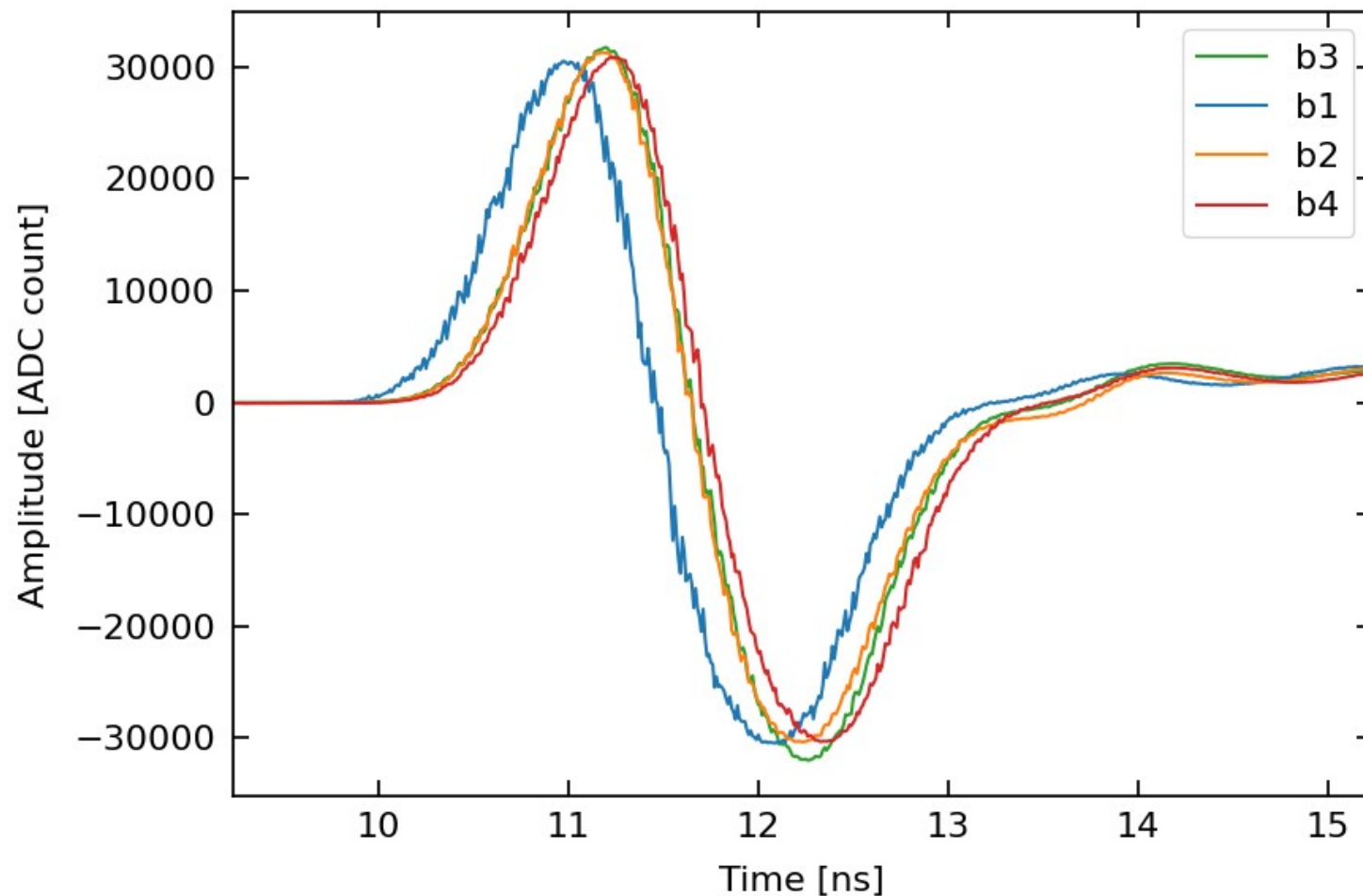
4 channels: 200-turn average



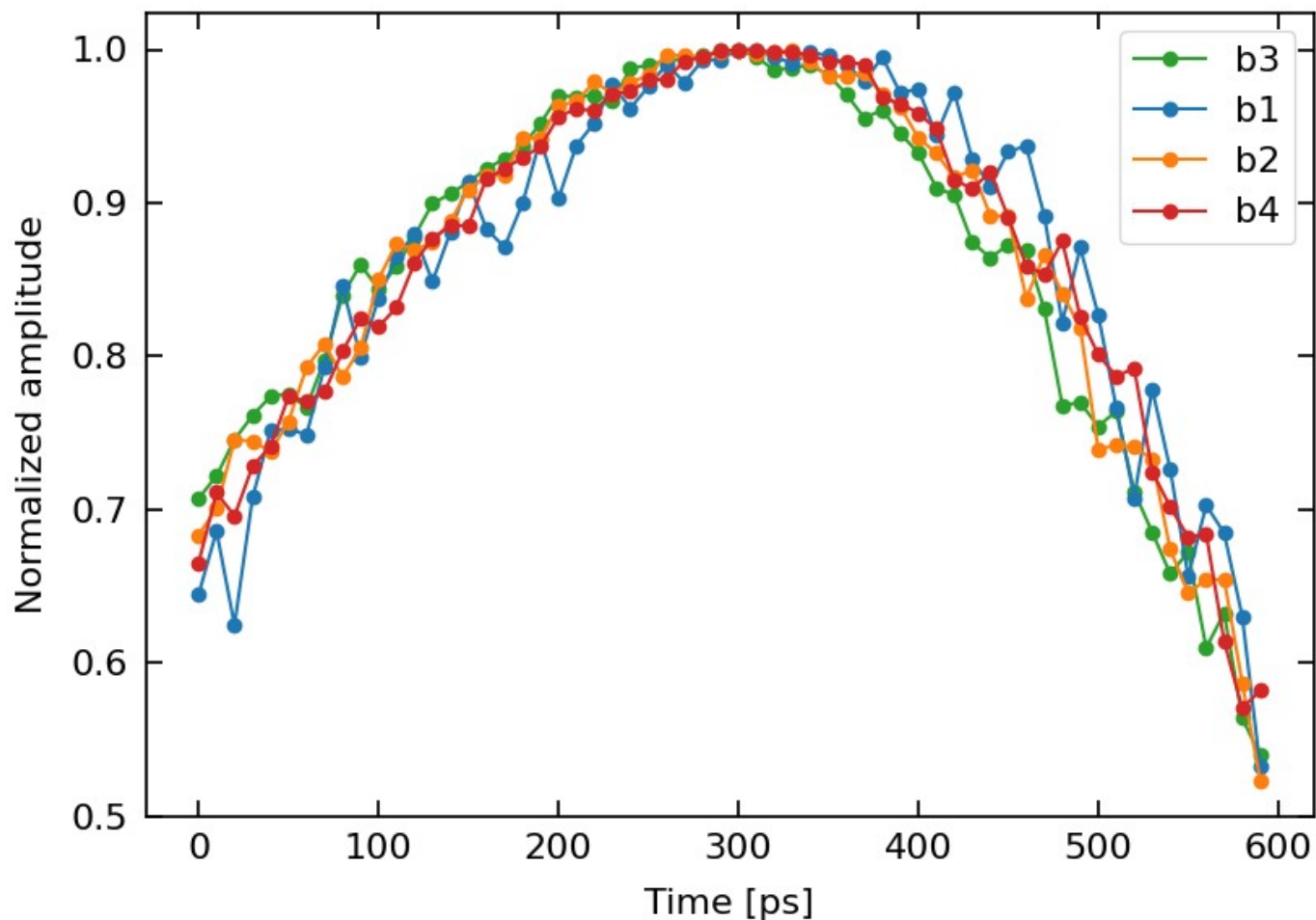
4 channels: 200-turn average



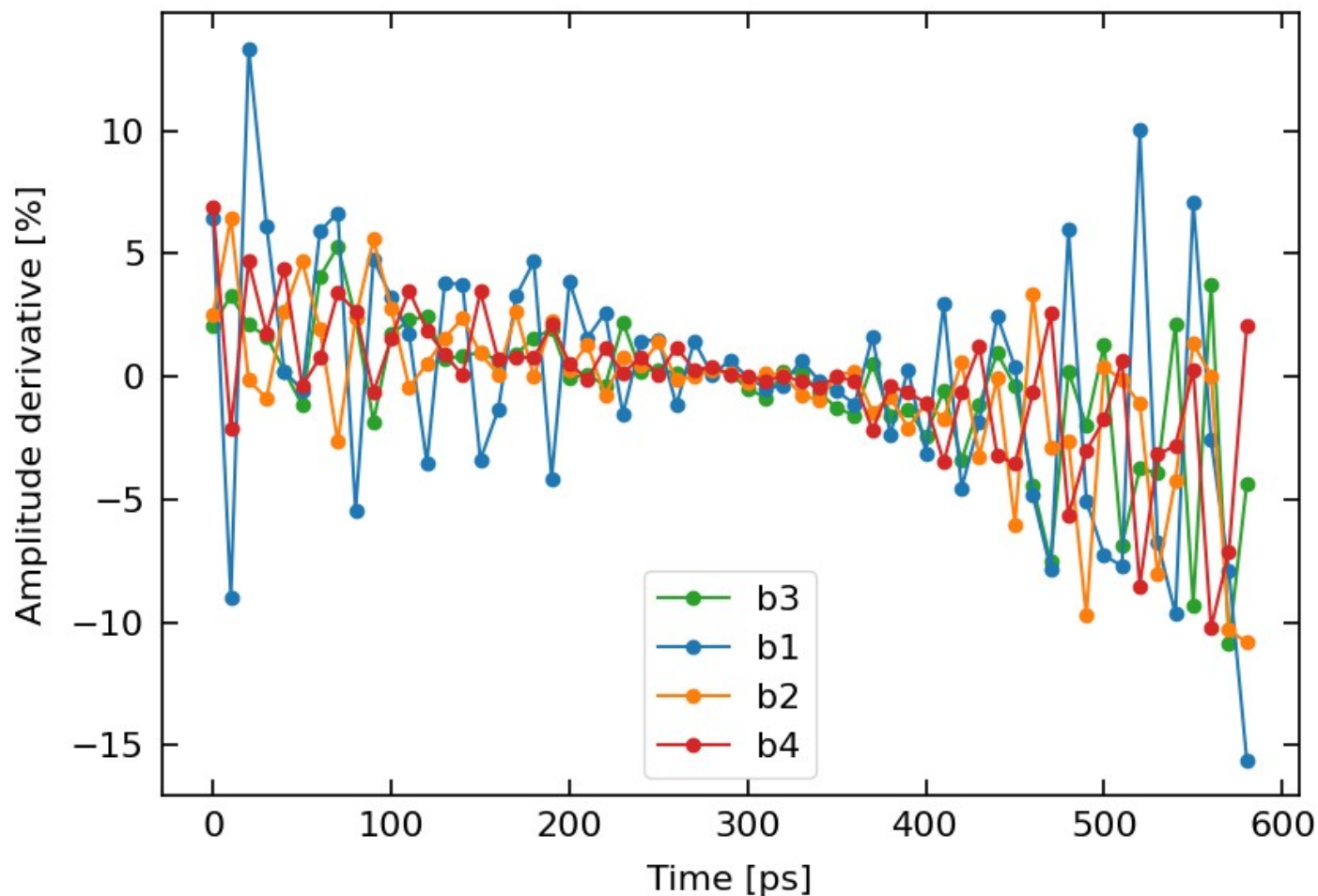
1 channel: 200-turn average



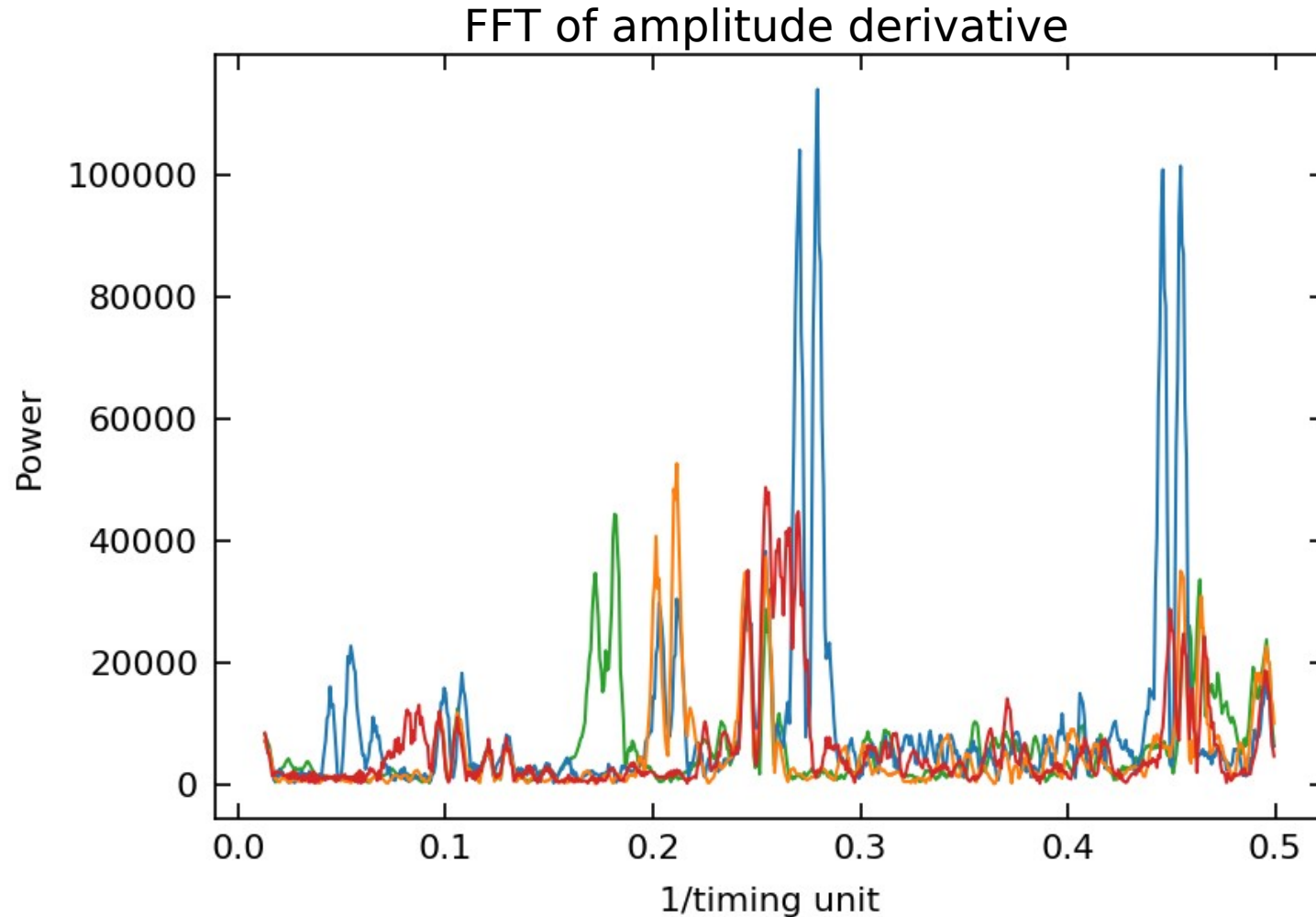
1 channel: 200-turn average



1 channel: 200-turn average

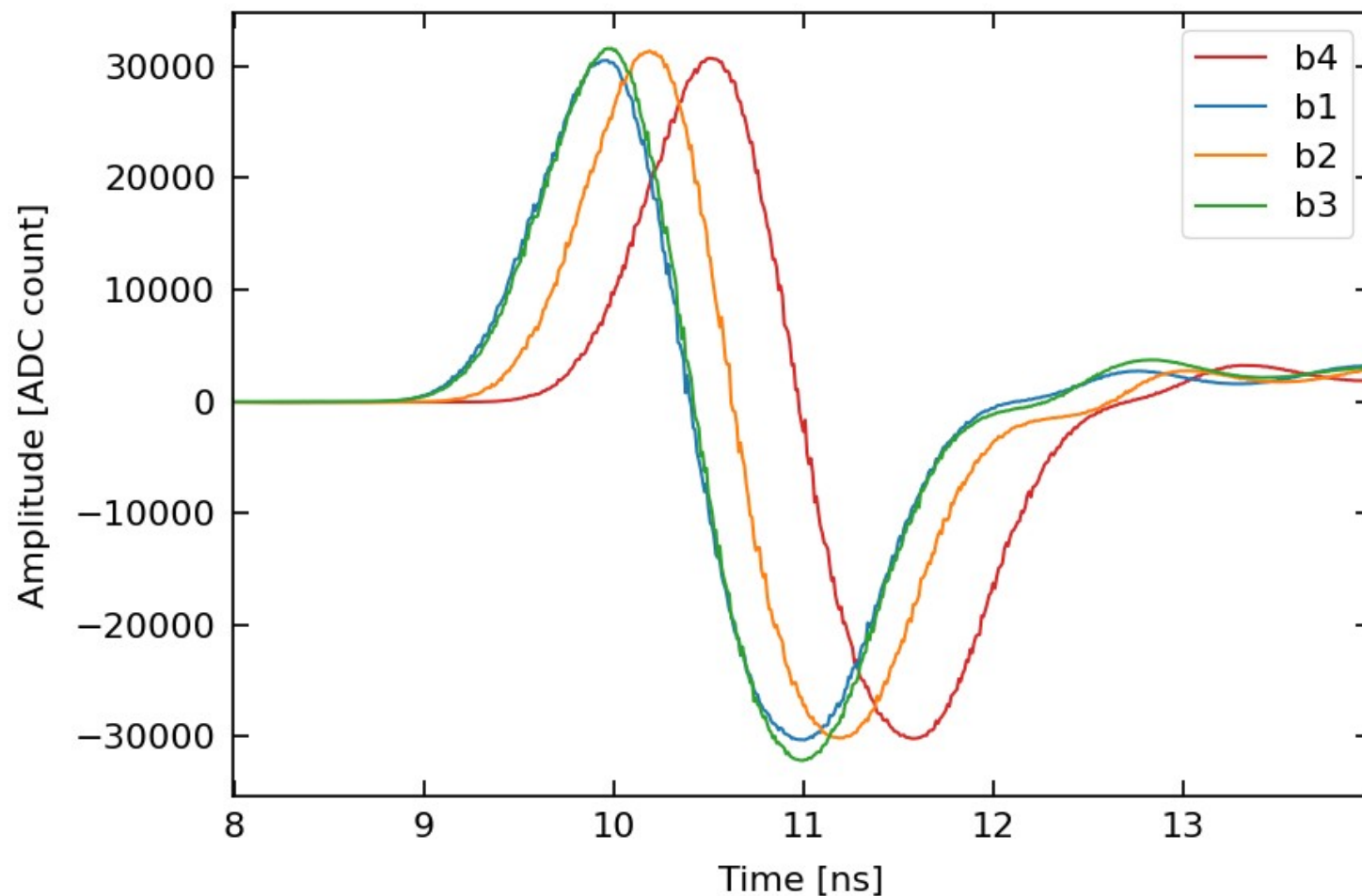


1 channel: 200-turn average

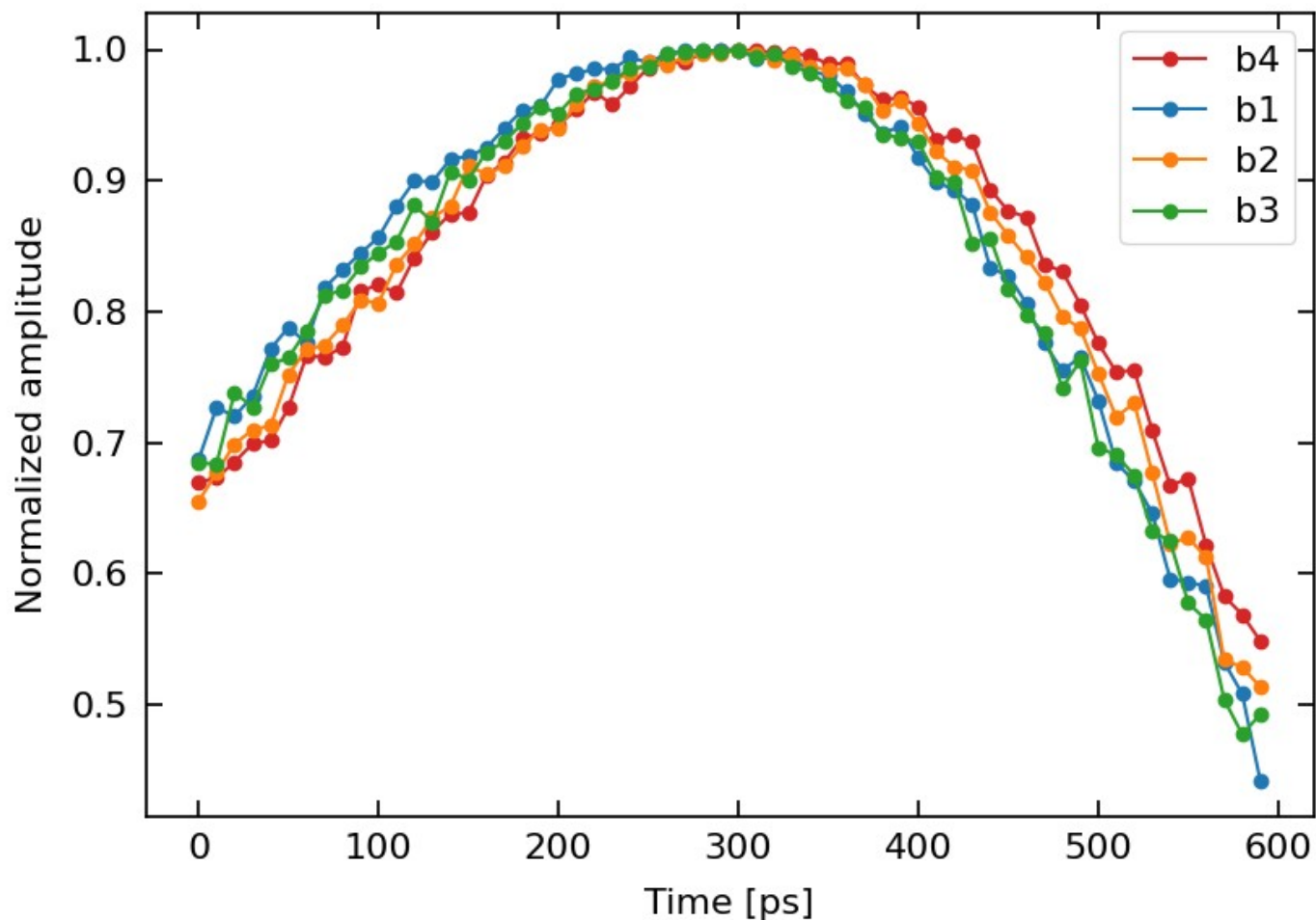


Brand new timing card

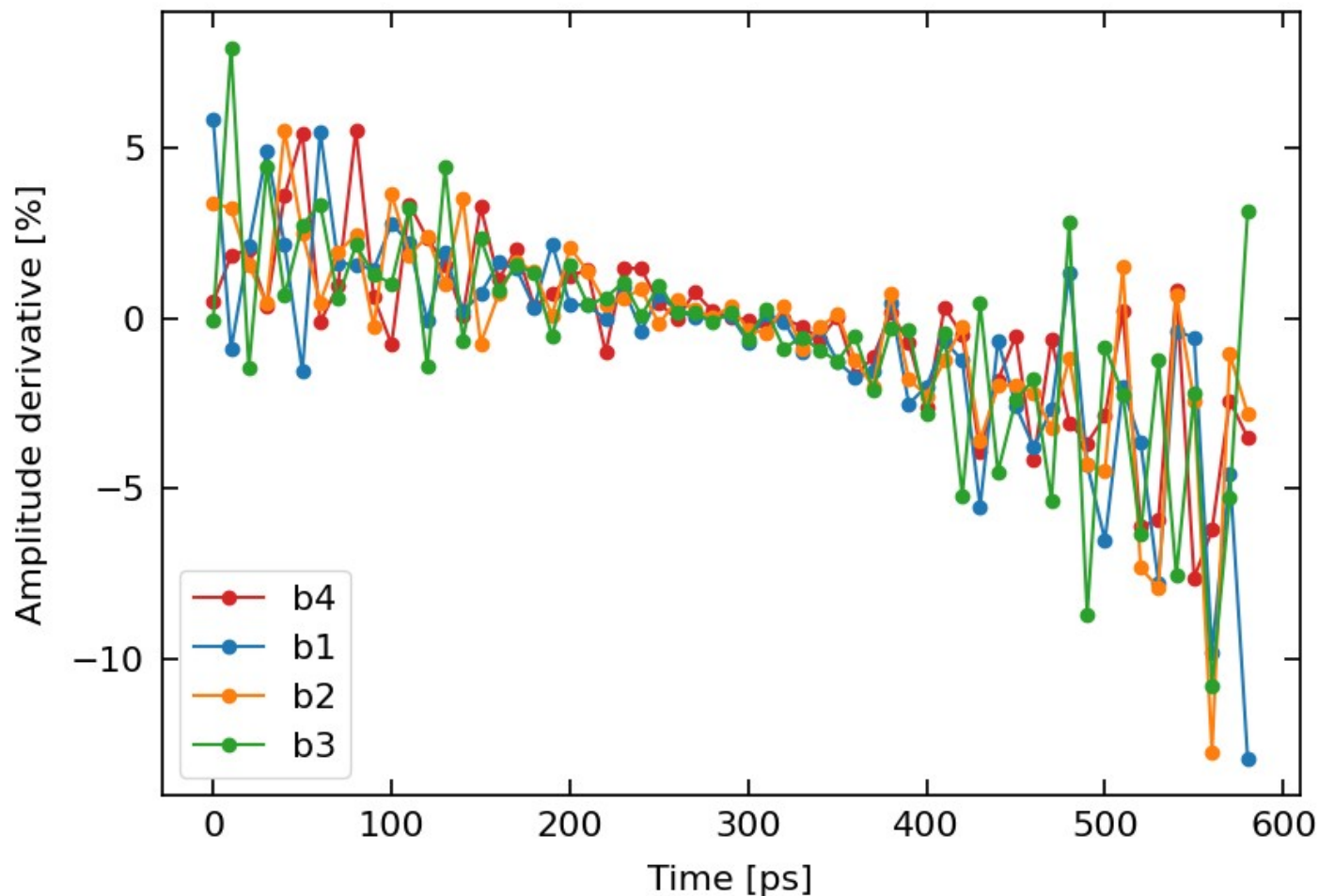
1 channel: 200-turn average



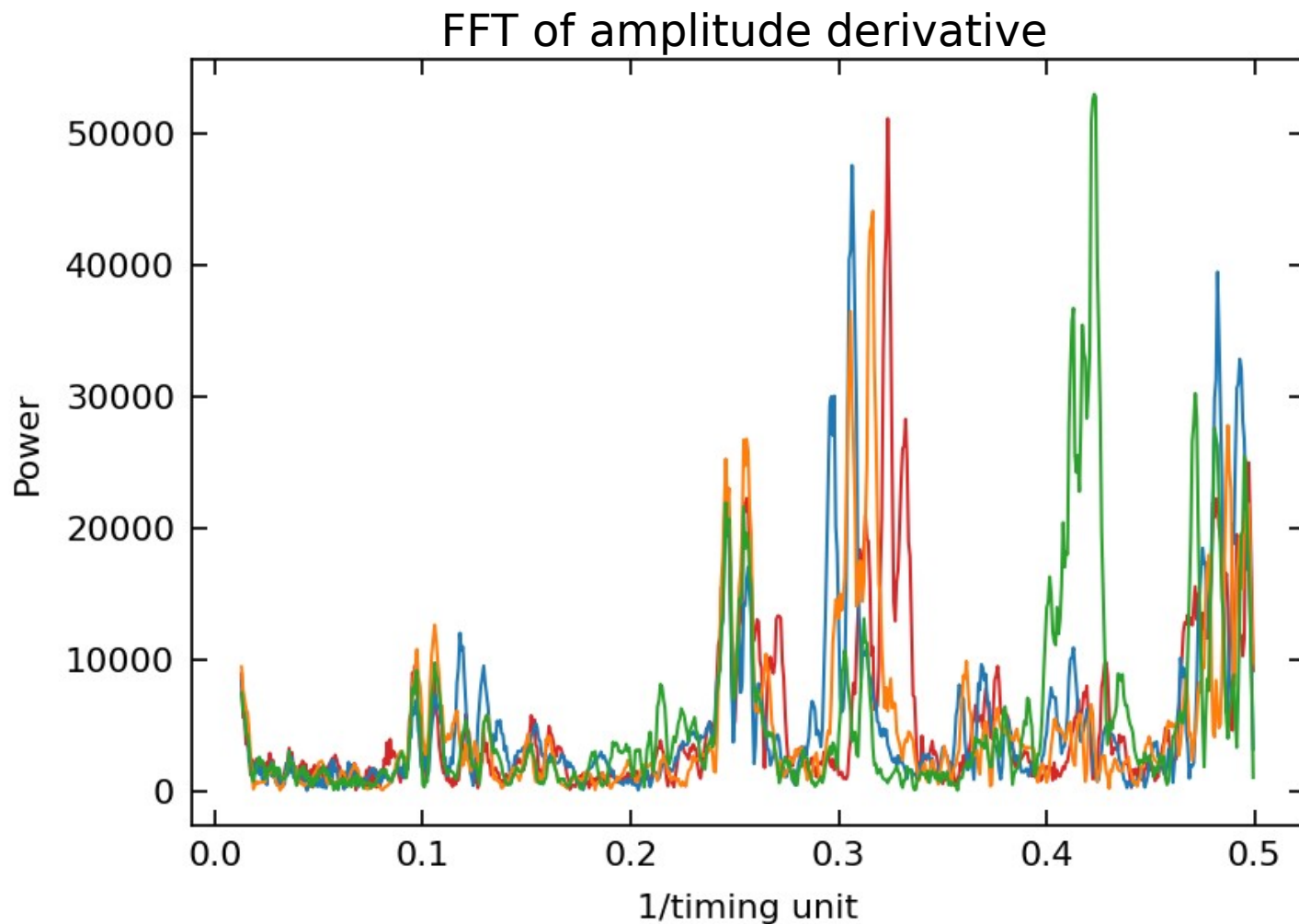
1 channel: 200-turn average



1 channel: 200-turn average



1 channel: 200-turn average



Takeaway

Brand new timing card exhibits non-uniform time stepping

Next step: collect zero-crossing data on the bench → jitter measurement

- requires being able to align the waveform

Extras