

# CBPM waveform time skipping

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# Waveform time skipping

Mike and Laurel made it evident that time step skipping in CBPM waveform time scan is a real thing. See [instr. elog 2385](#).

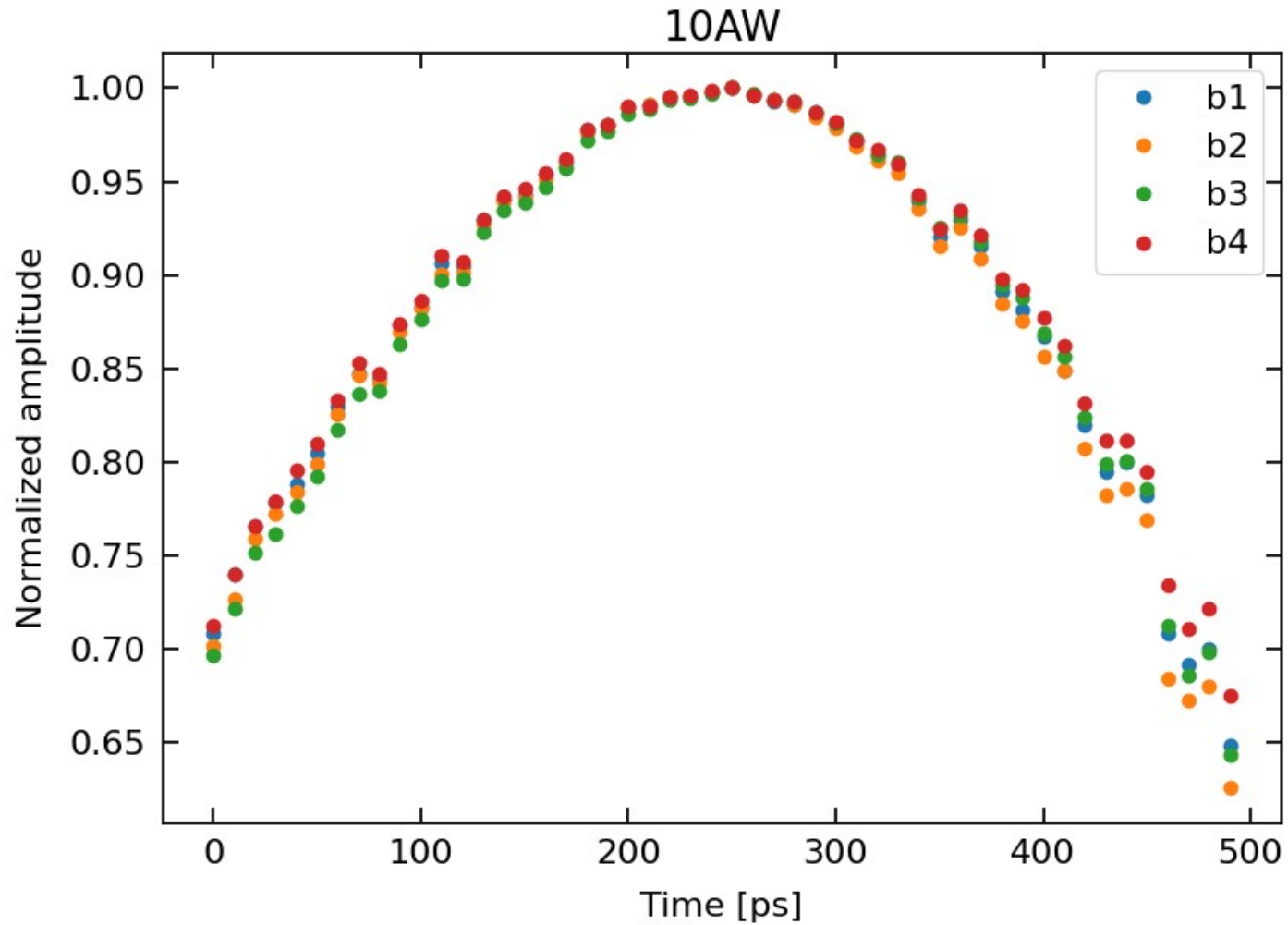
To add to their work: looked at 10-turn average waveforms from Tuesday maintenance (see [instr. elog 2384](#)) for all available CBPMs.

## Waveform data:

- `/nfs/cesr/online/instr/data/cbpmII/tscan/51/TS-051898*`
- `/nfs/cesr/online/instr/data/cbpmII/tscan/51/TS-051904*`

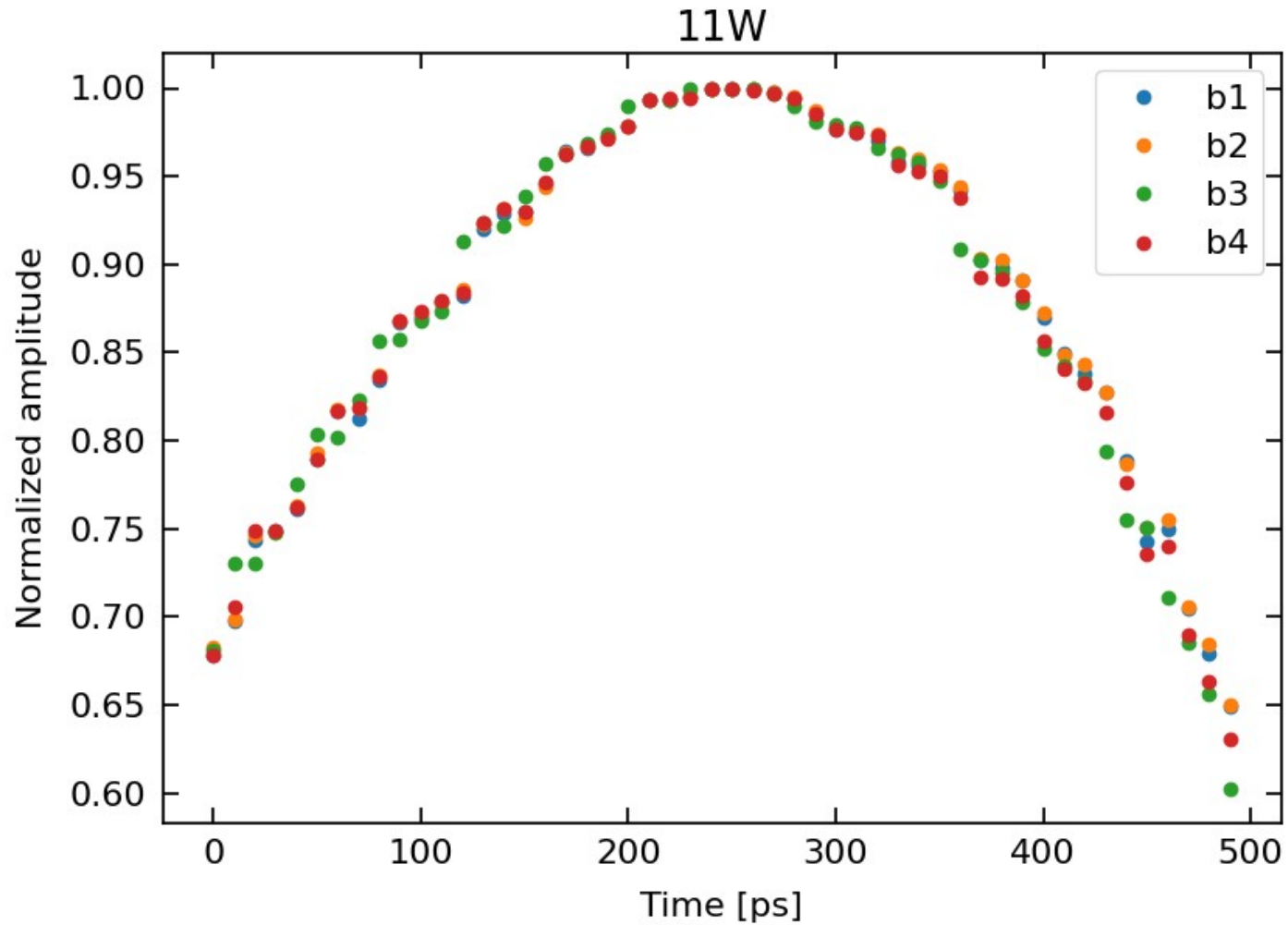
recap'

# Example waveforms



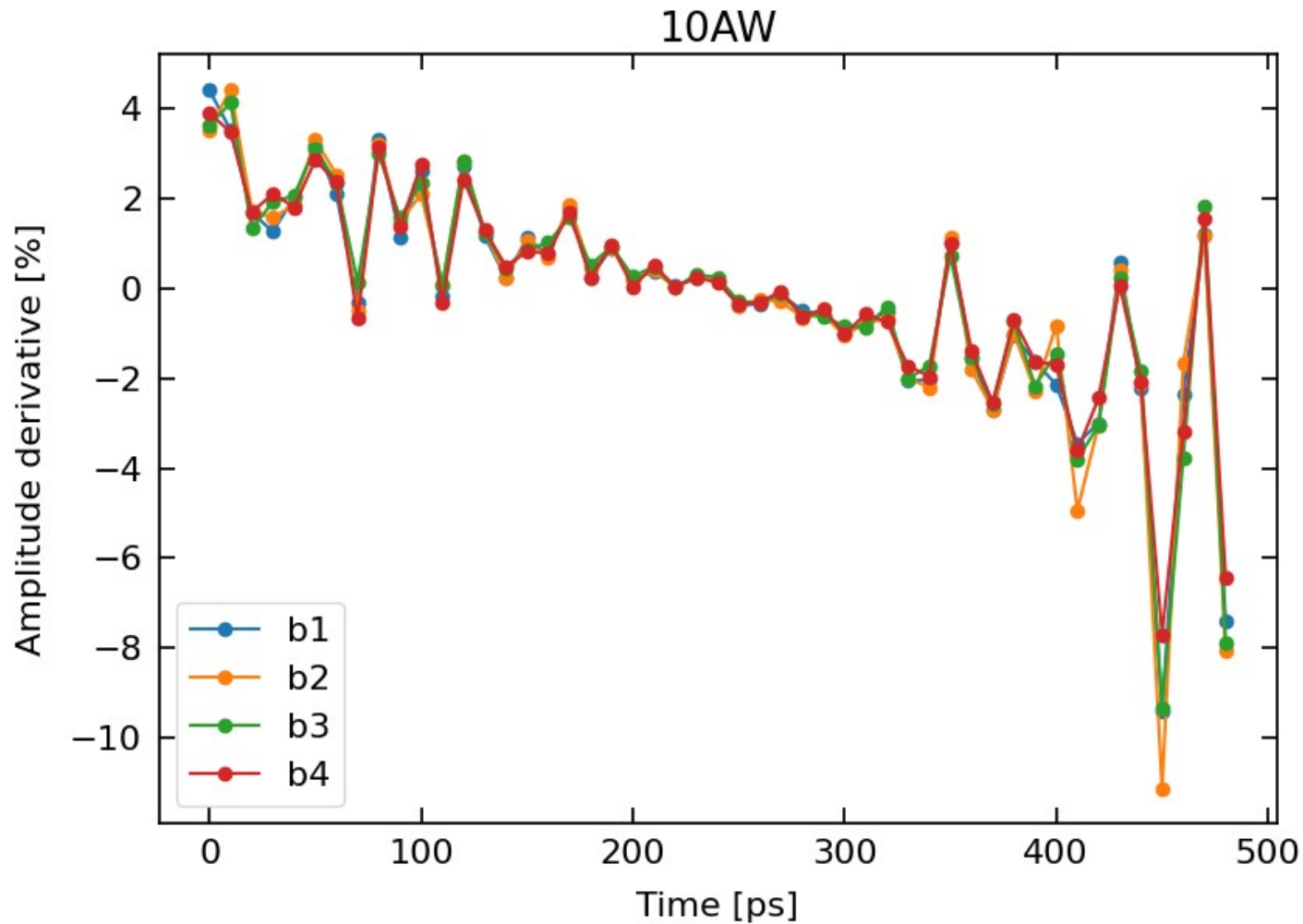
recap'

# Example waveforms



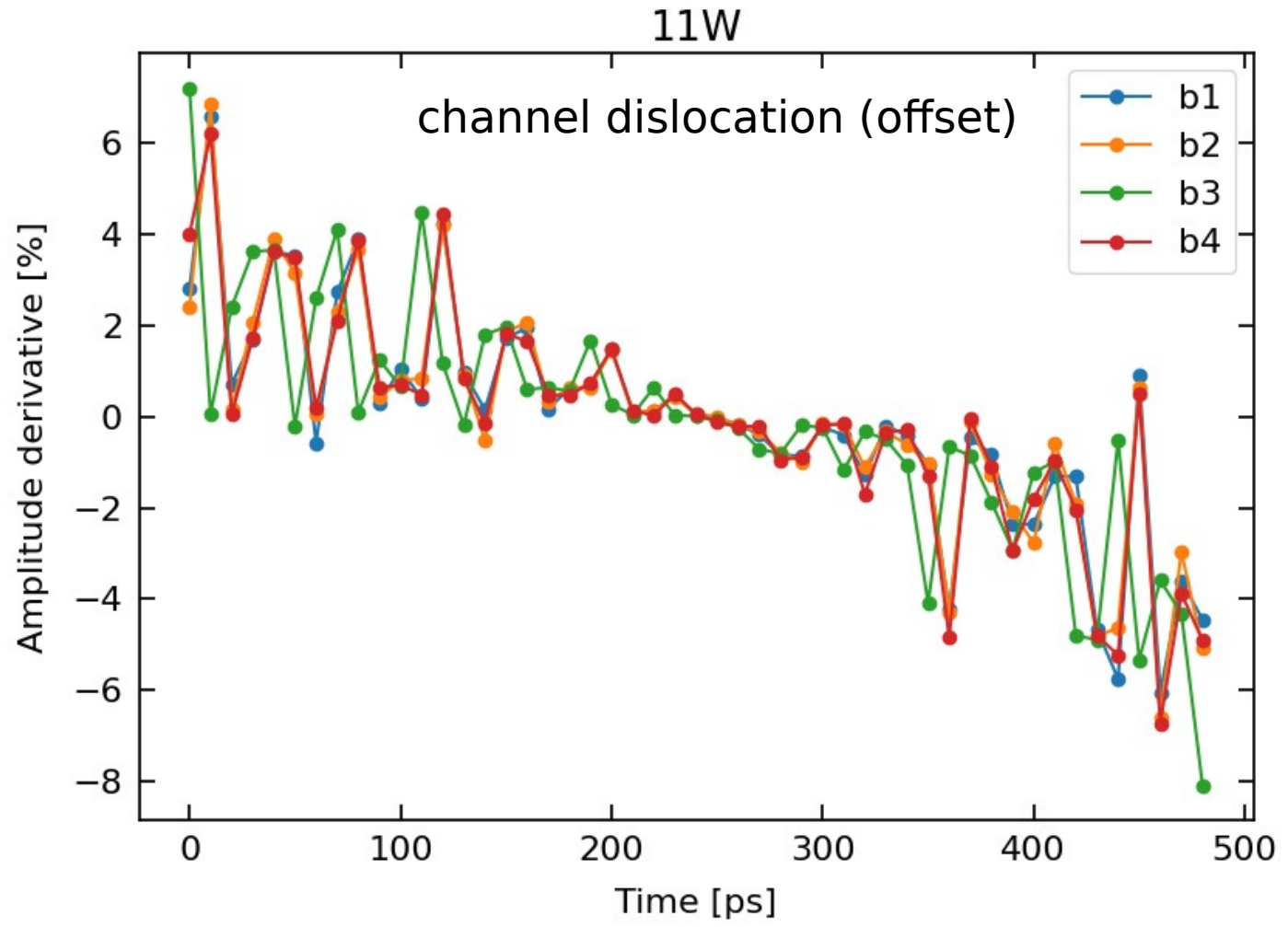
recap'

# Waveform derivatives



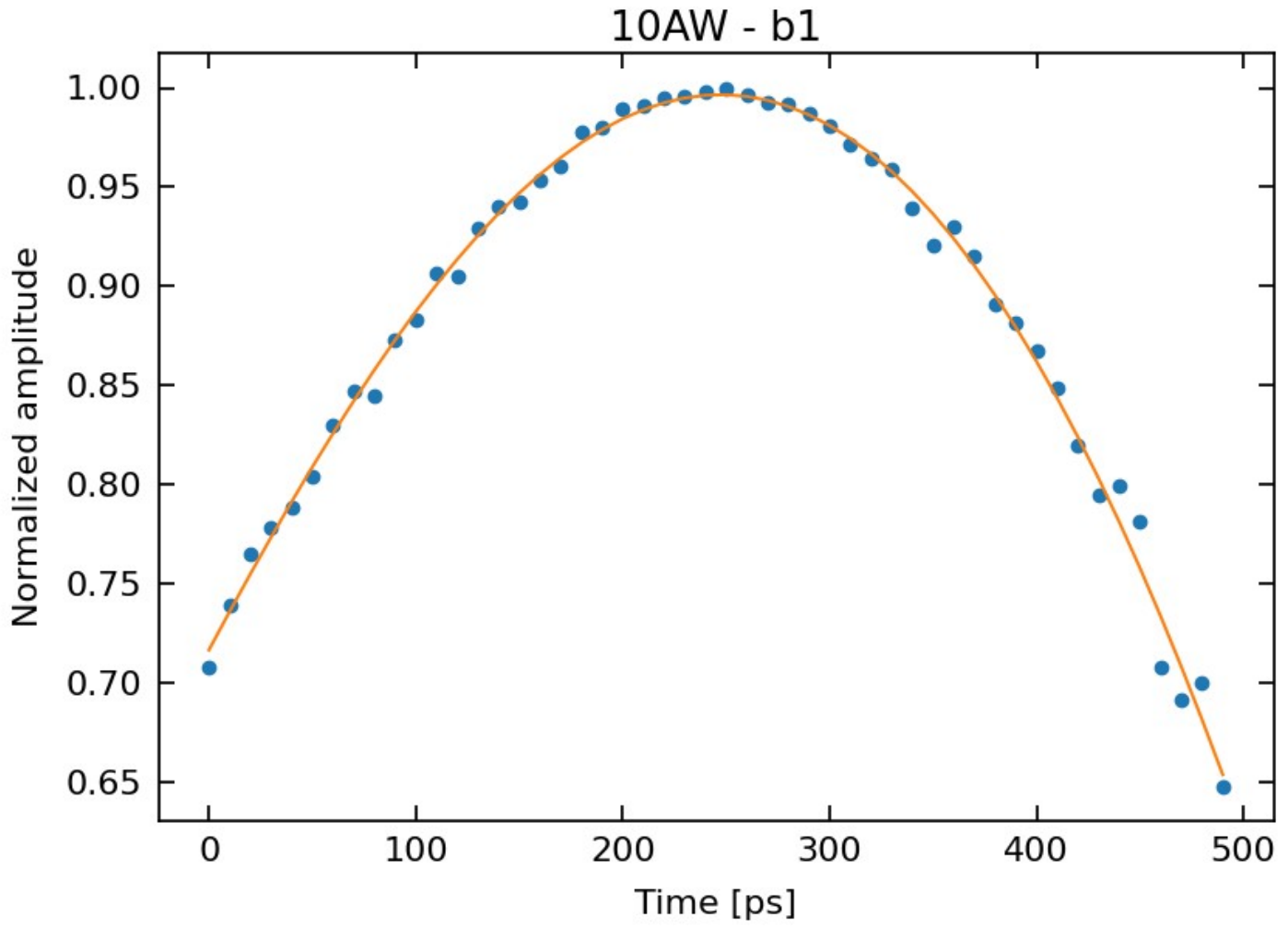
recap'

# Waveform derivatives

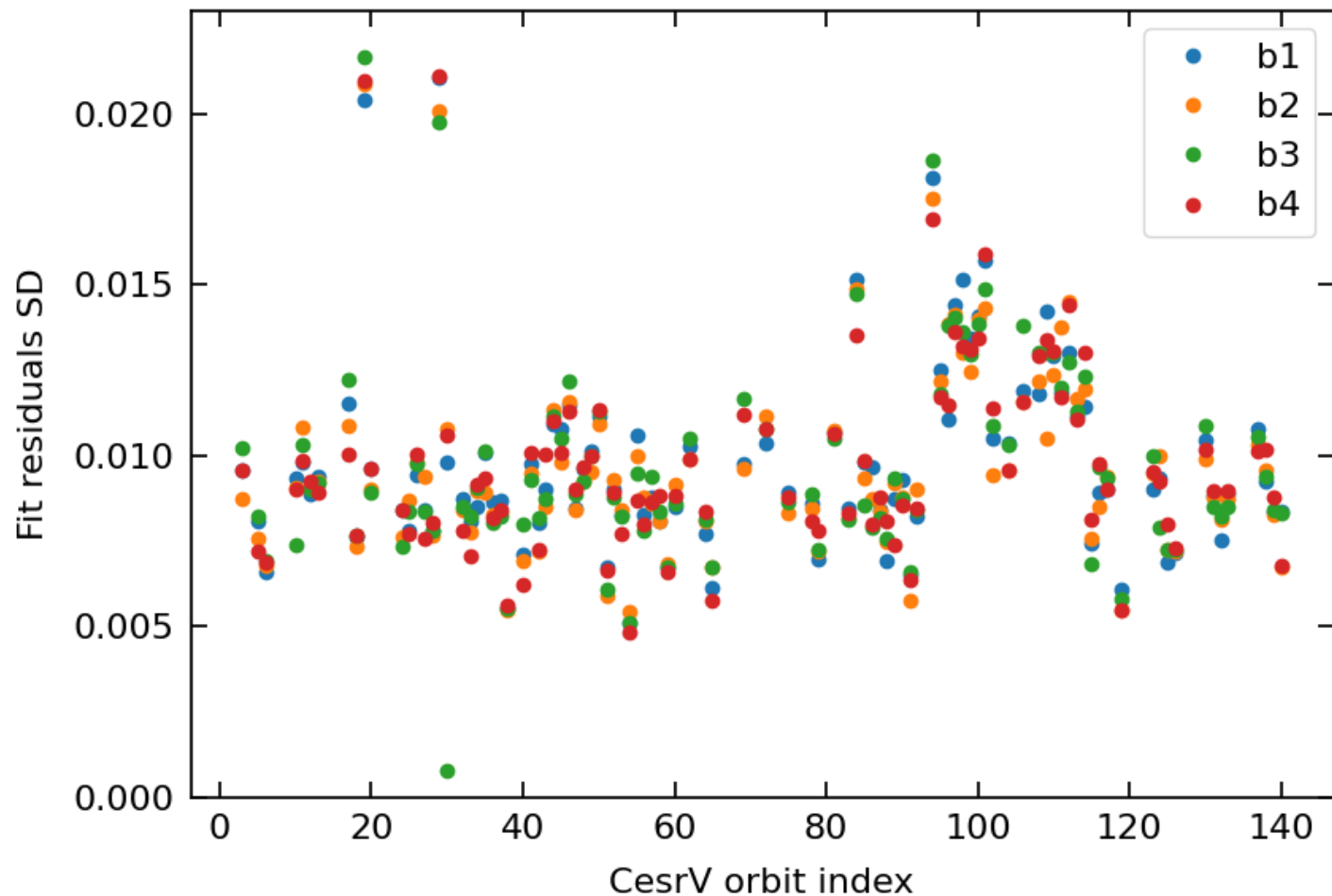


recap'

# Waveform fit (4<sup>th</sup> order poly.)



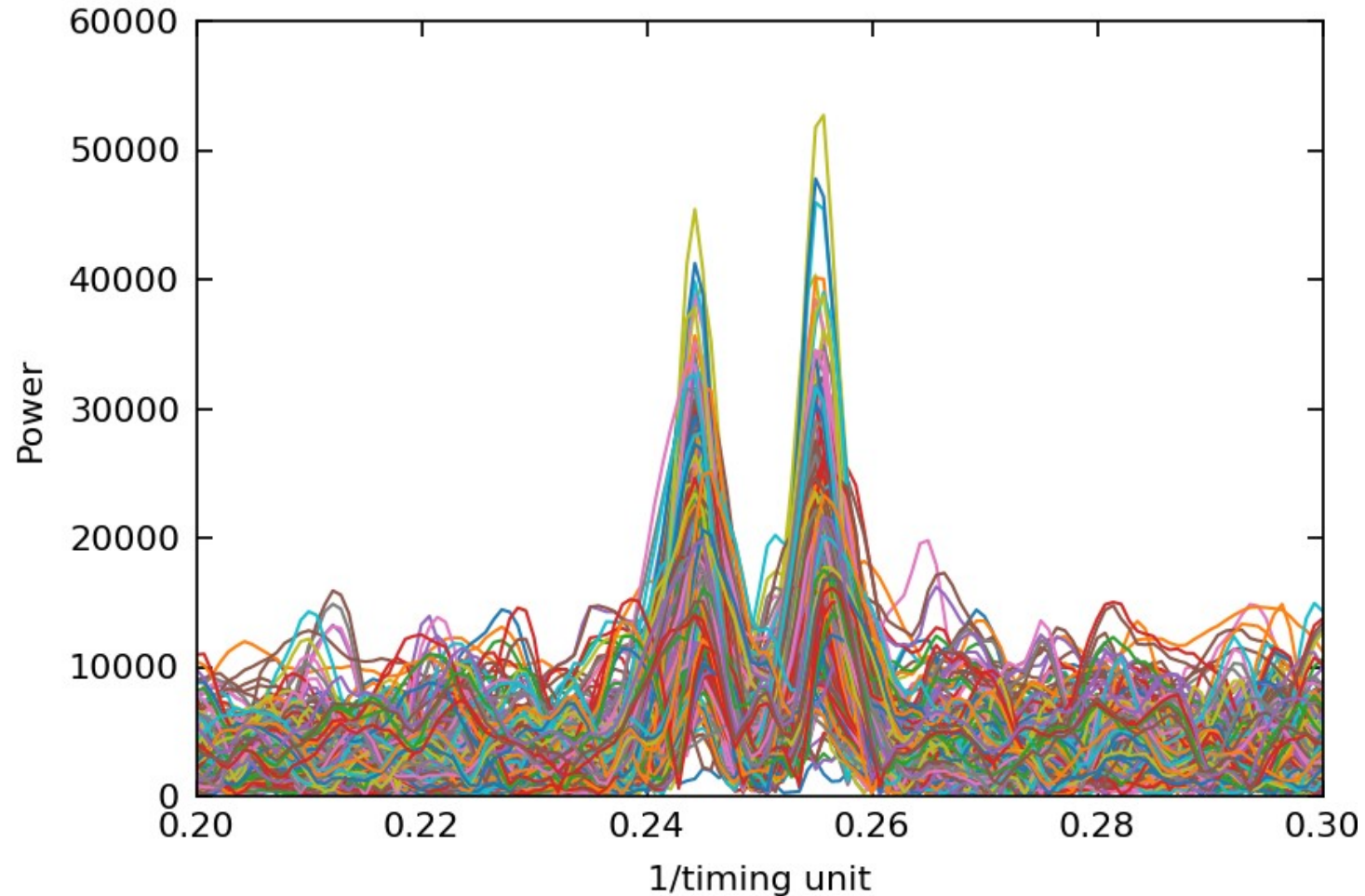
# recap' Fit residuals standard deviation





recap'

# Waveform derivative FFTs



# Going back in time

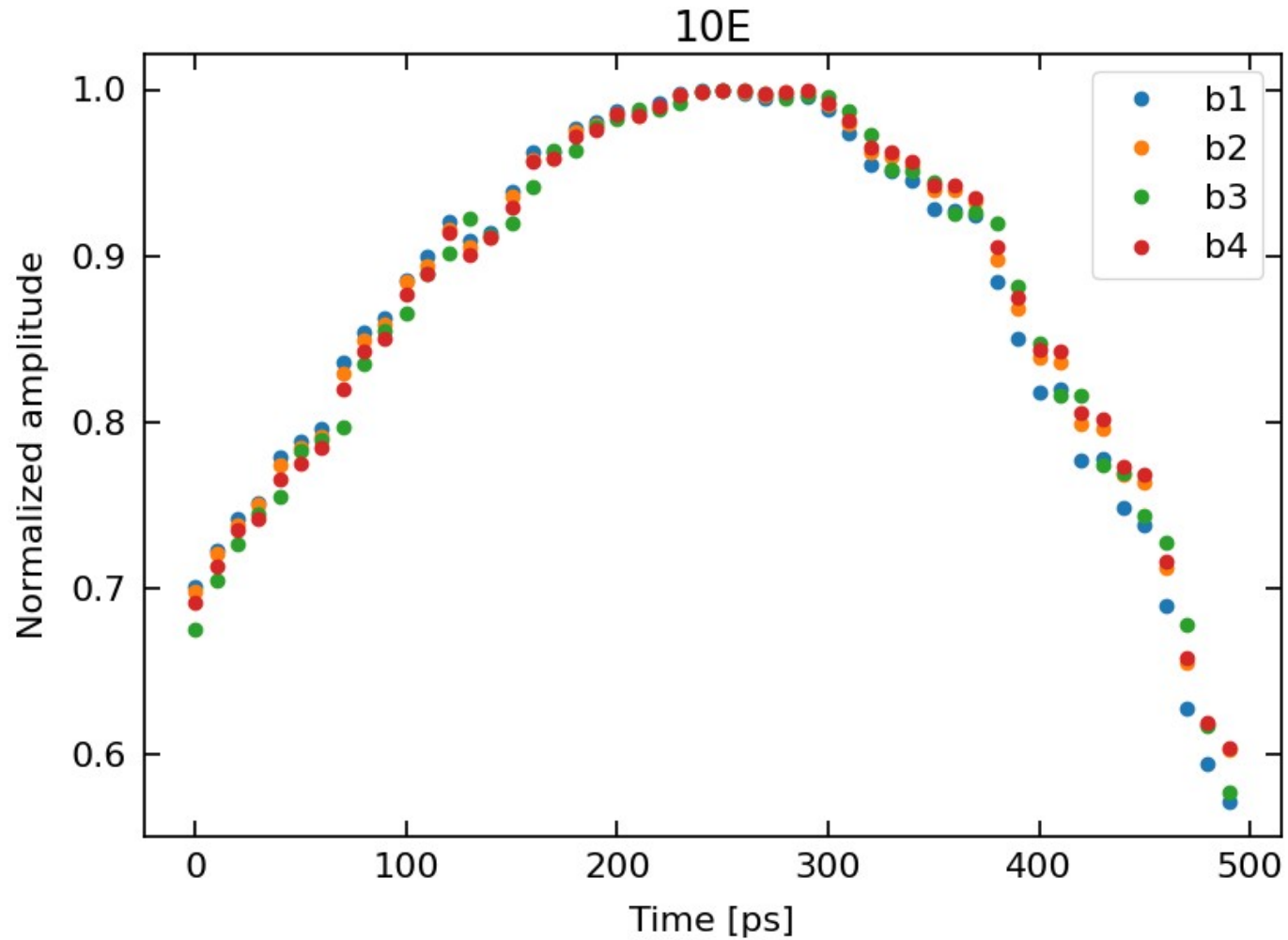
Are the issues due to aging and radiation damage?

Can find waveform data as far back as 2011

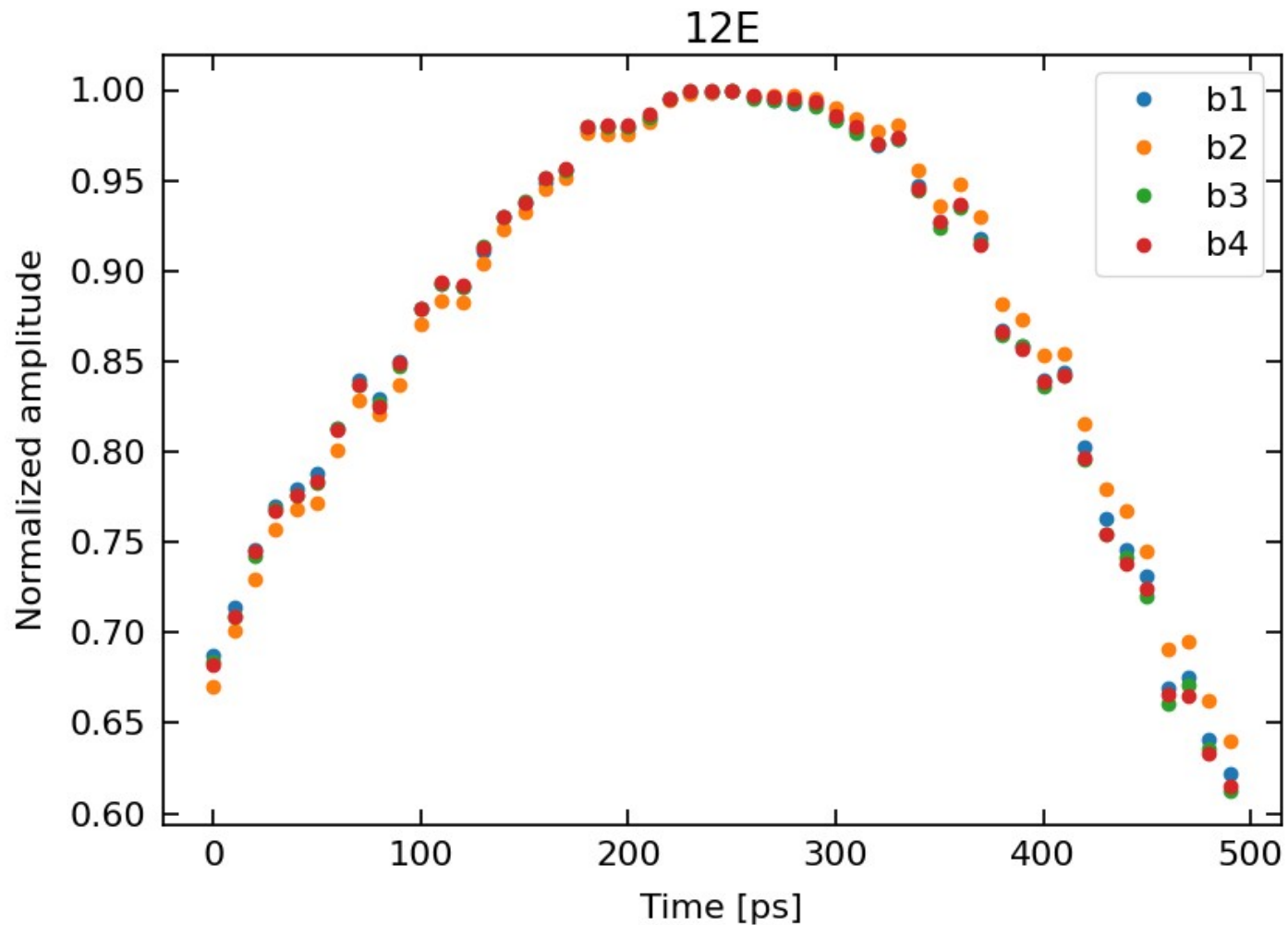
Example waveform data:

- `/nfs/cesr/online/instr/data/cbpmII/tscan/30/TS-030299*`

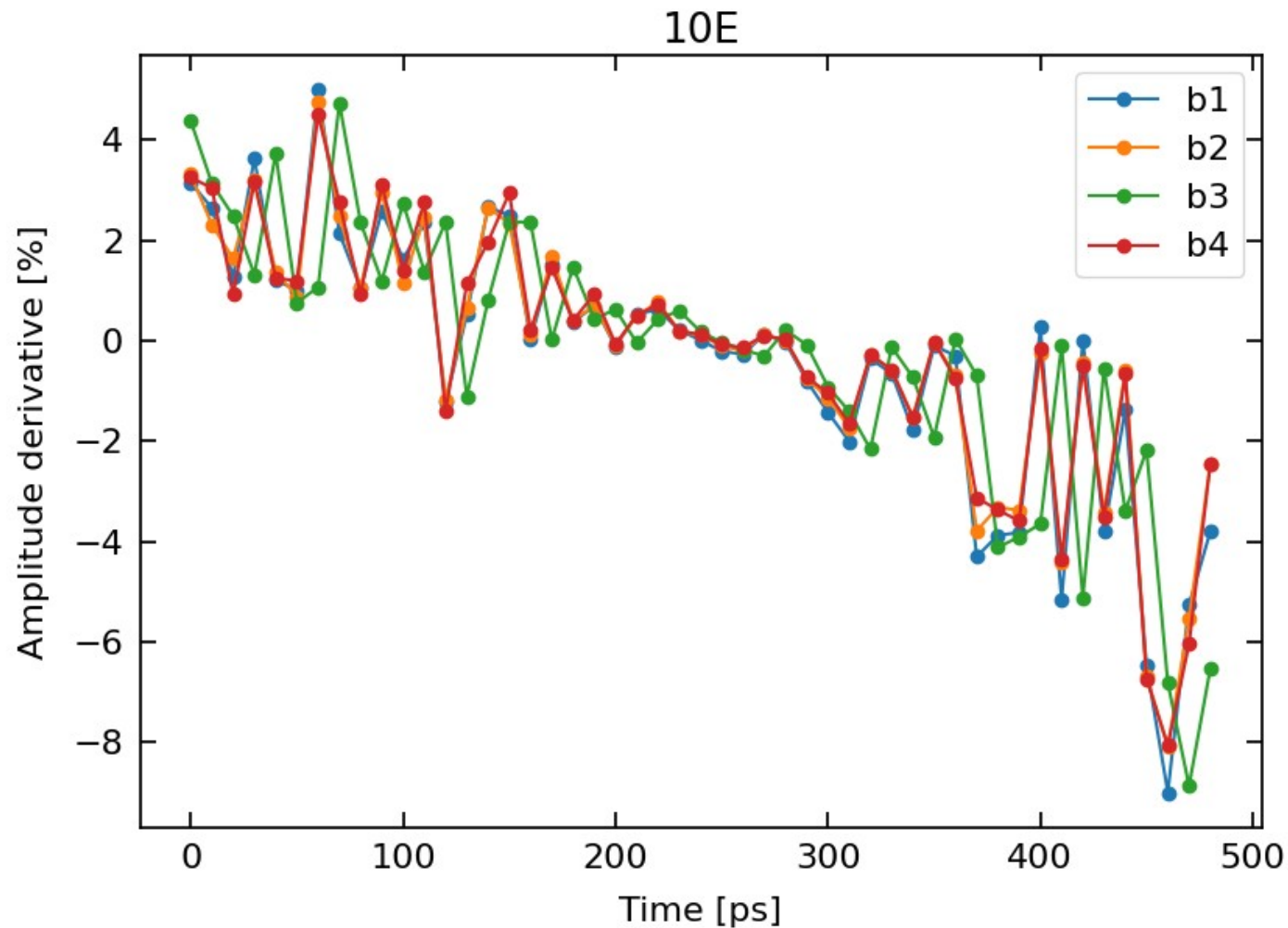
# Example waveforms



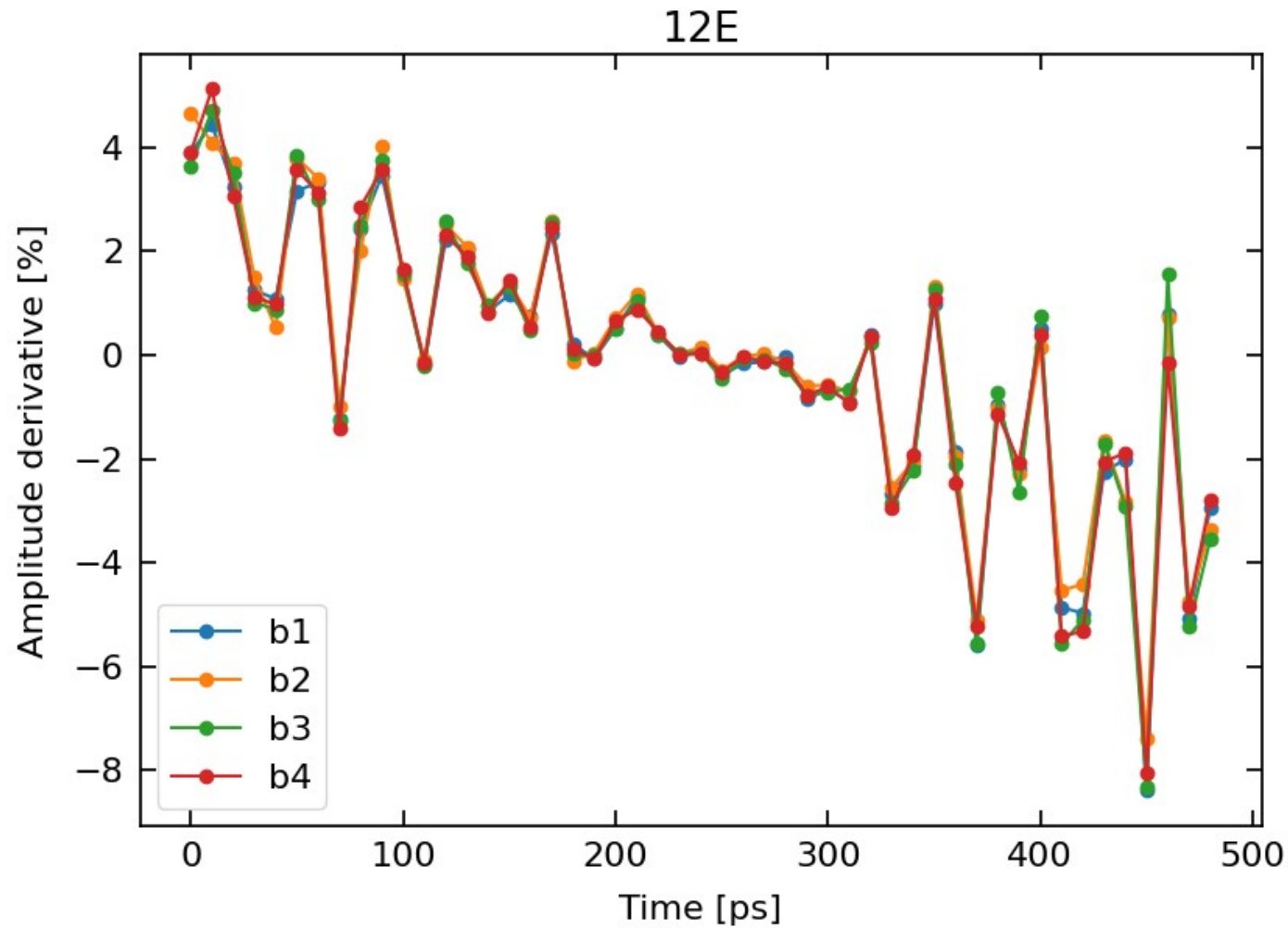
# Example waveforms



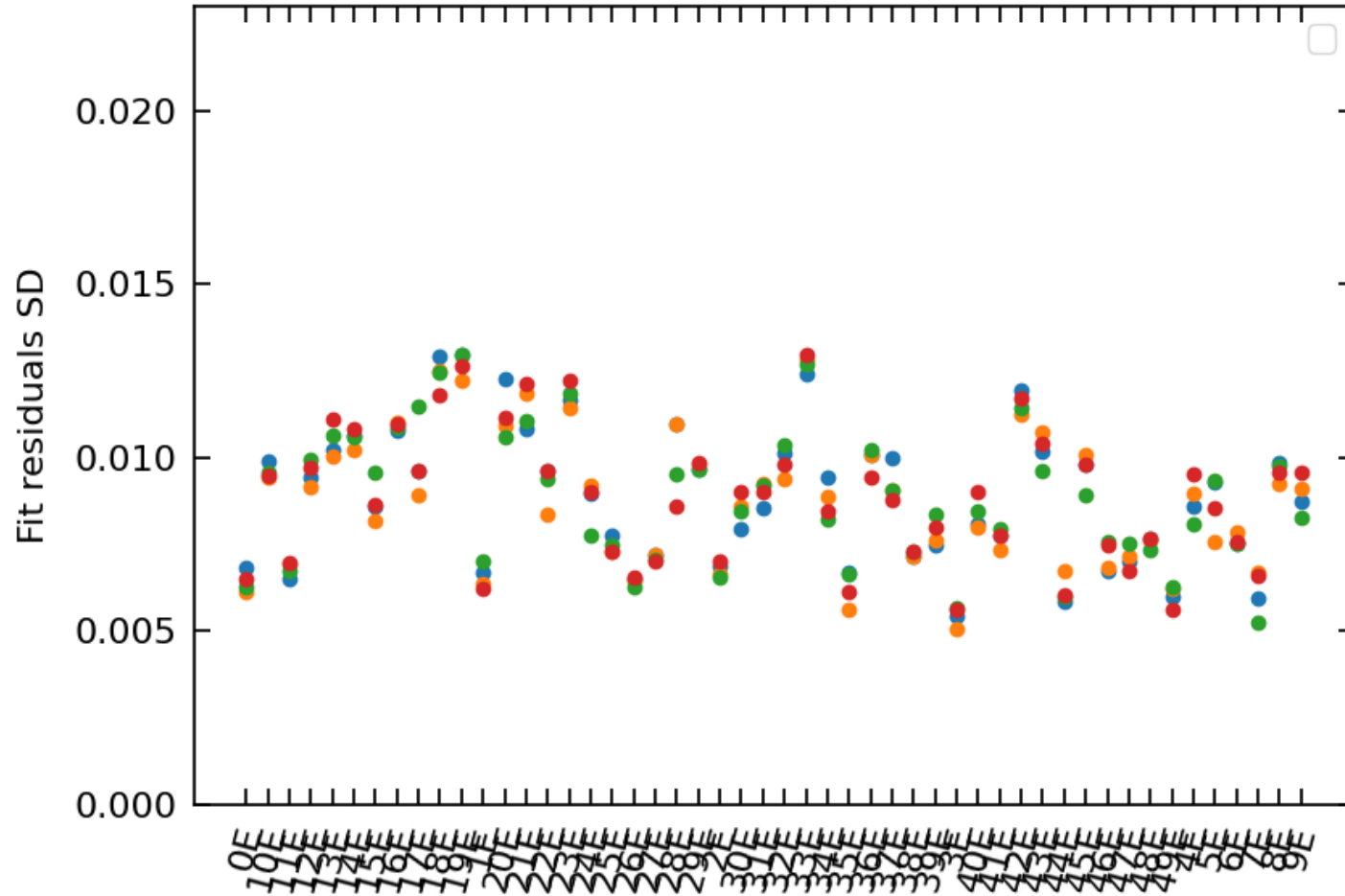
# Waveform derivatives



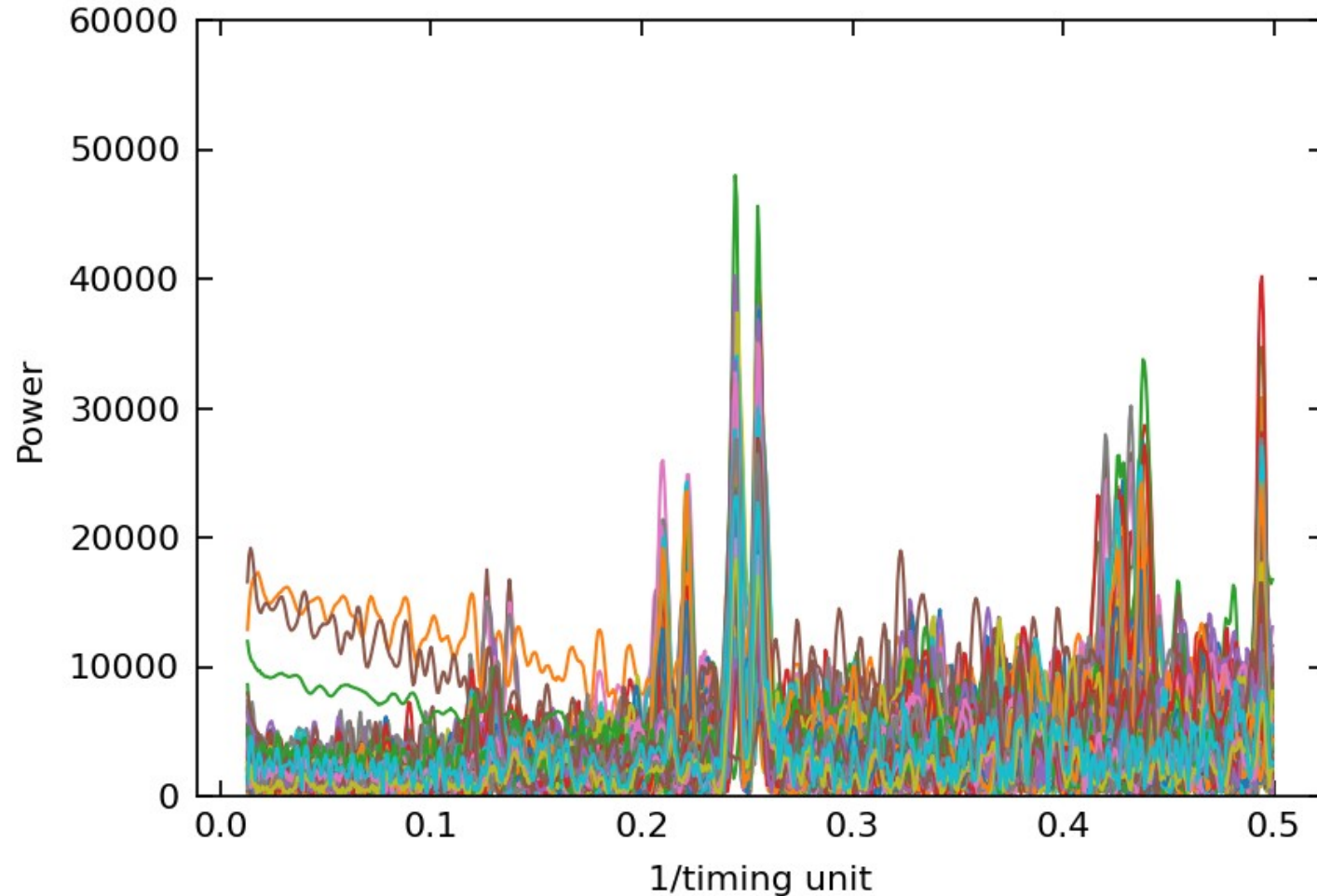
# Waveform derivatives



# Fit residuals standard deviation



# Waveform derivative FFTs





# Takeaway

Issues were present as far back as 2011

Extras