Pulse Shape Study.

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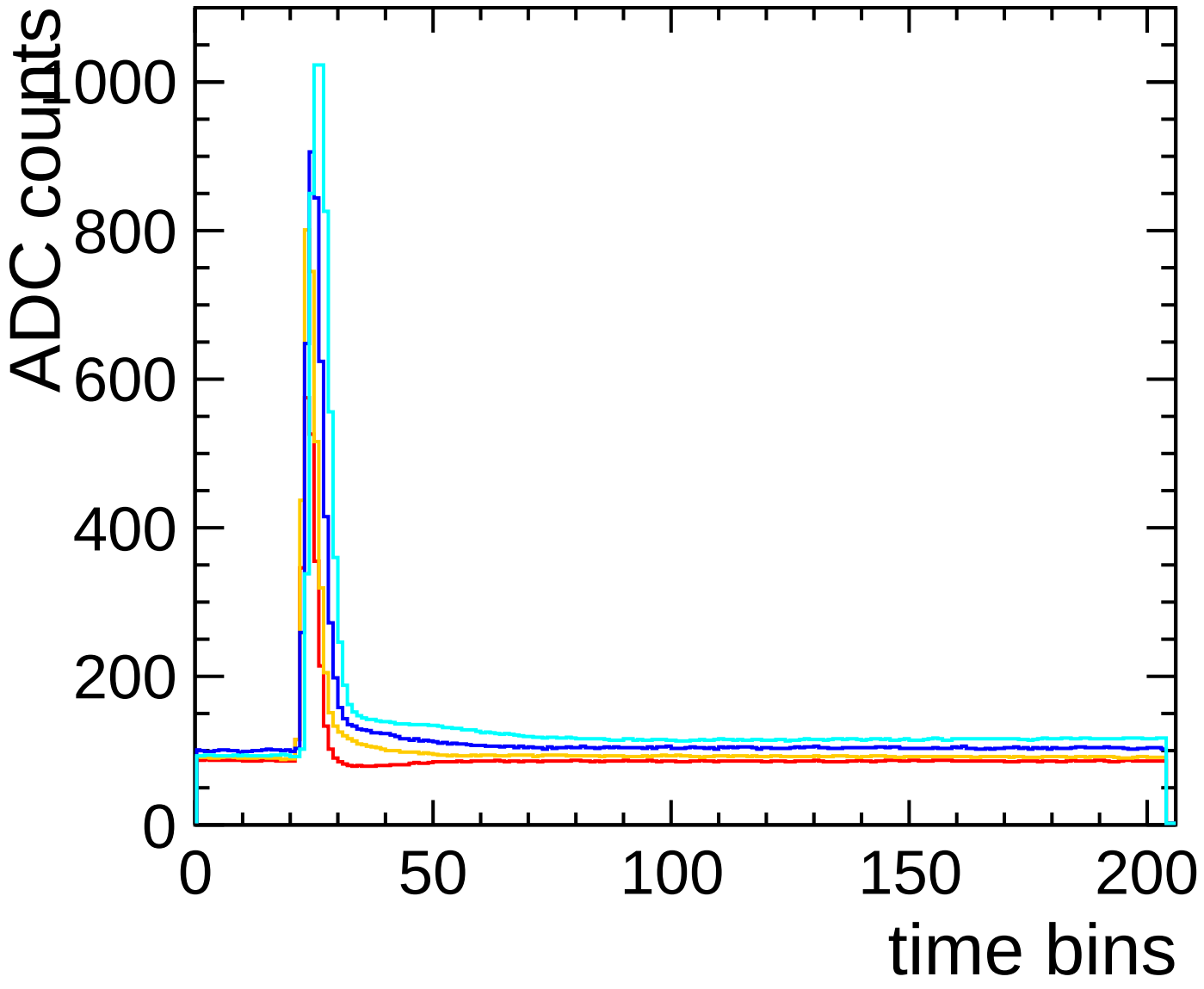
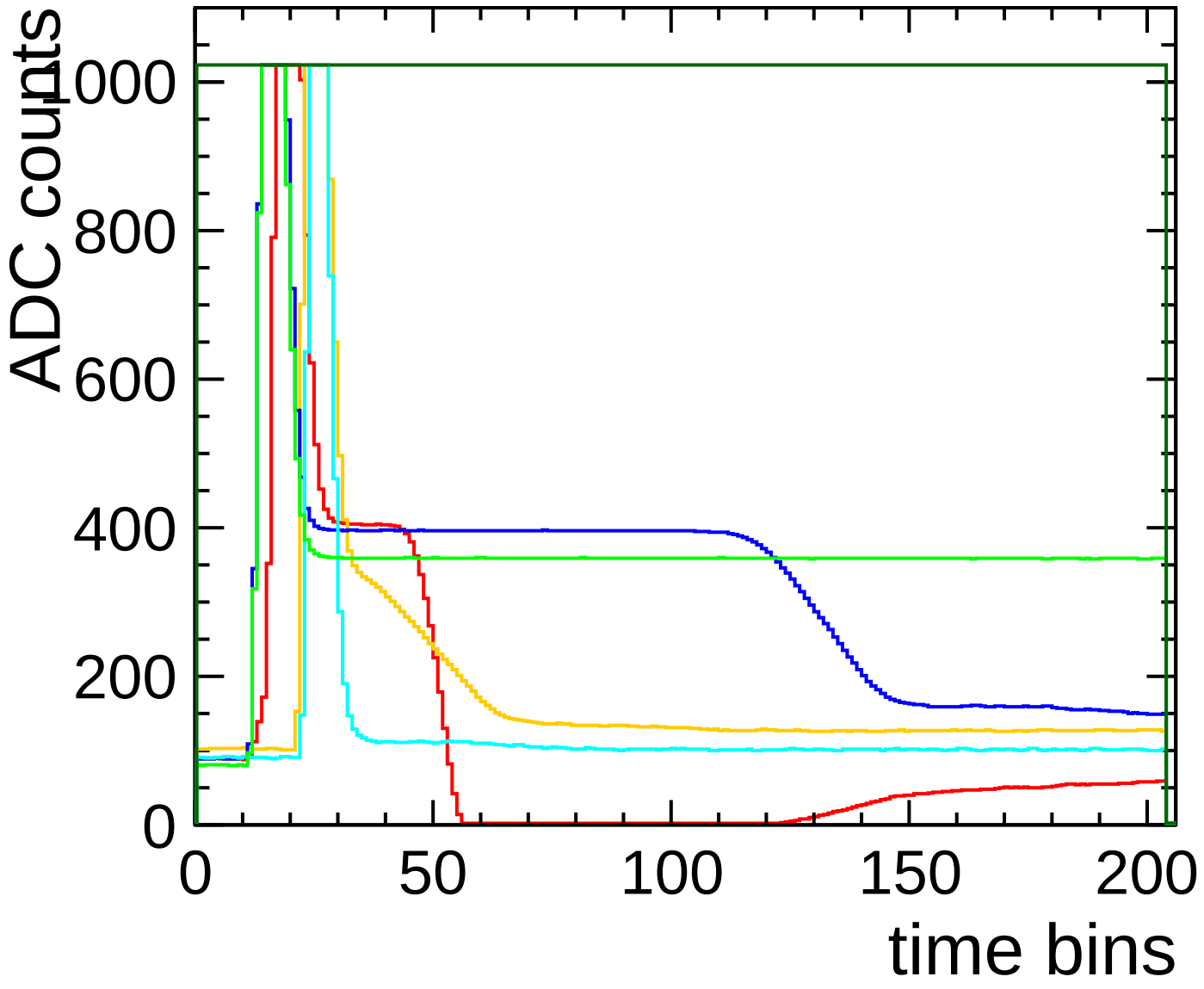
DESY

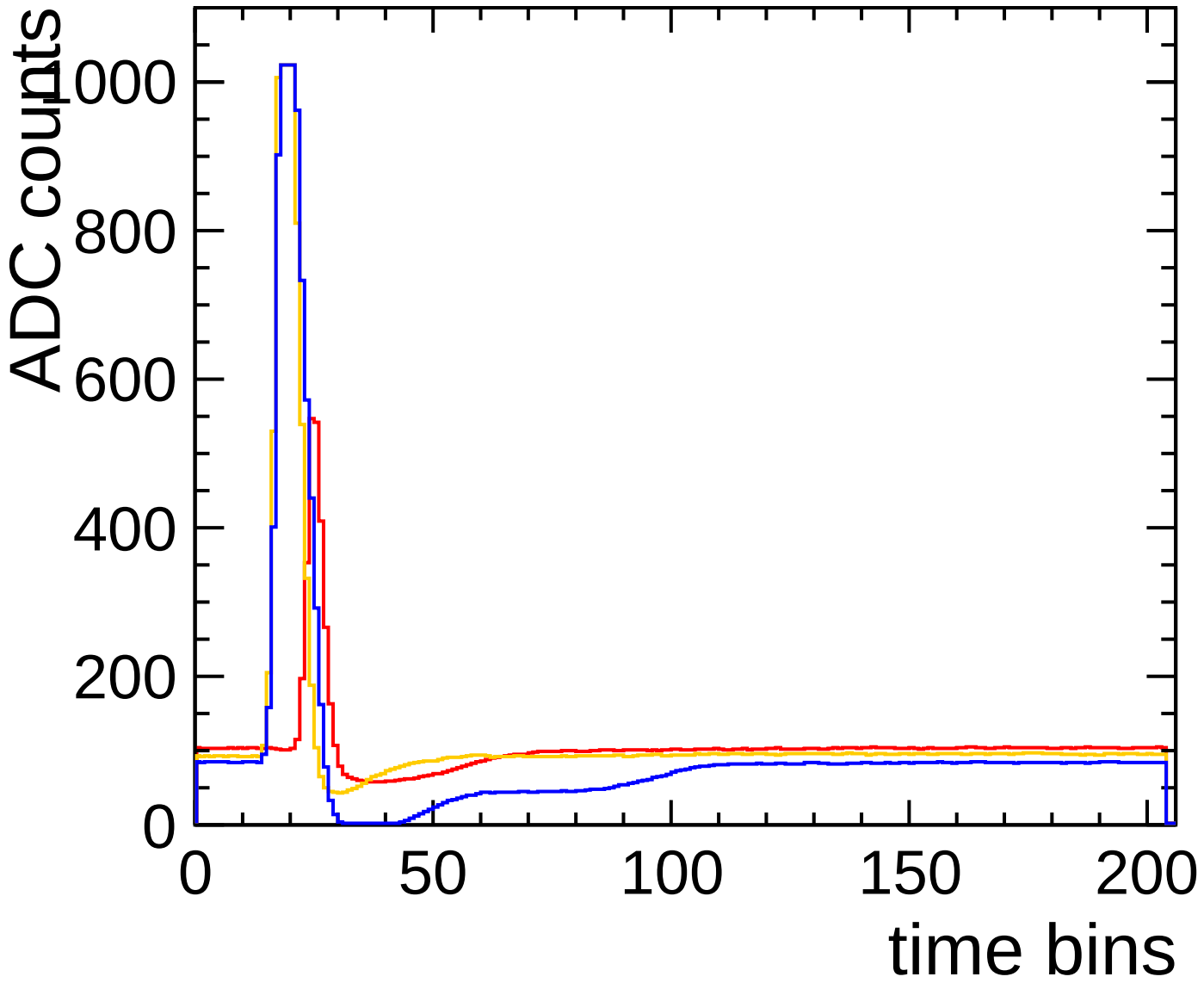
Normal Pulse Shapes



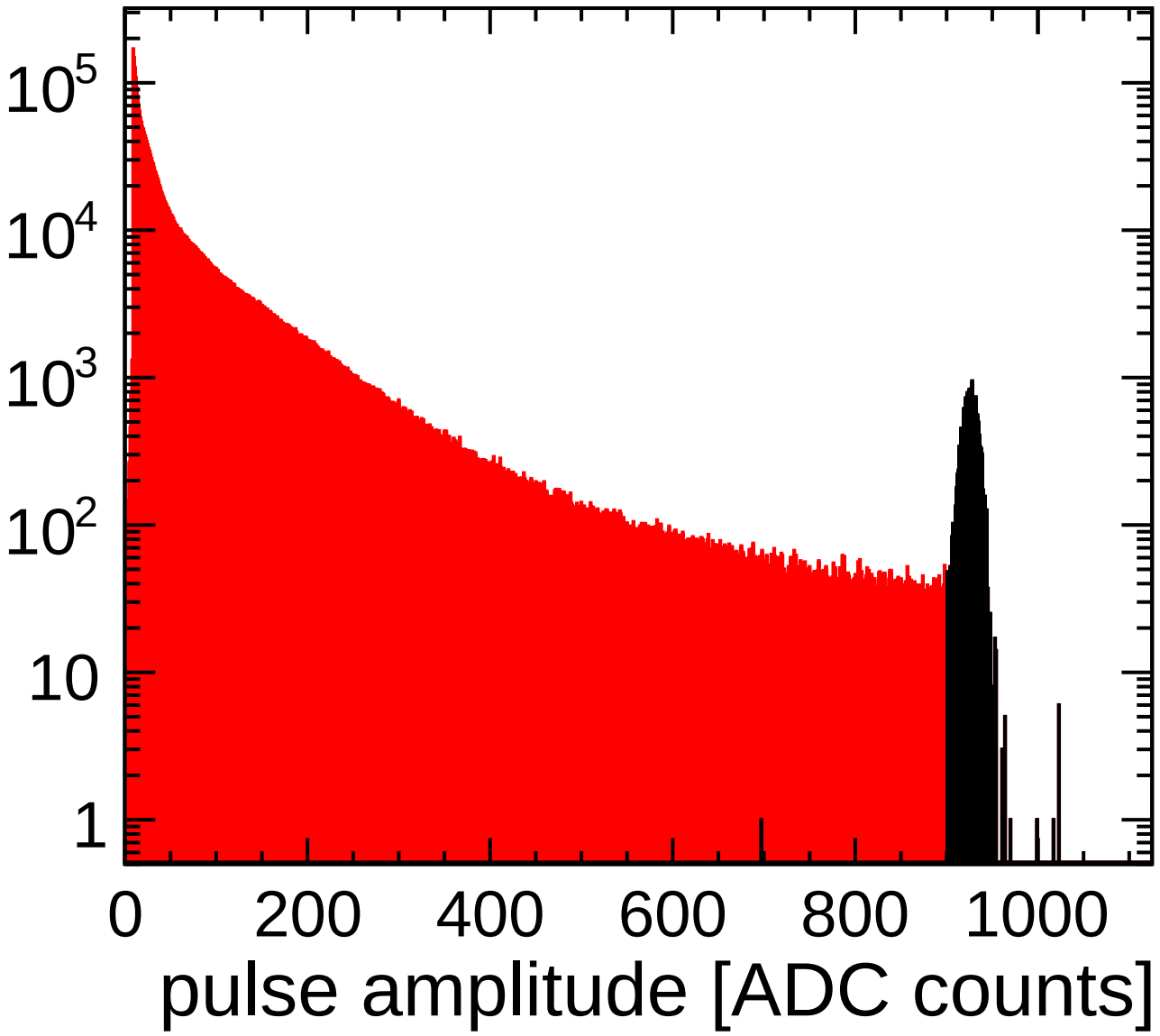
Over-range Pulse Shapes



Undershoots

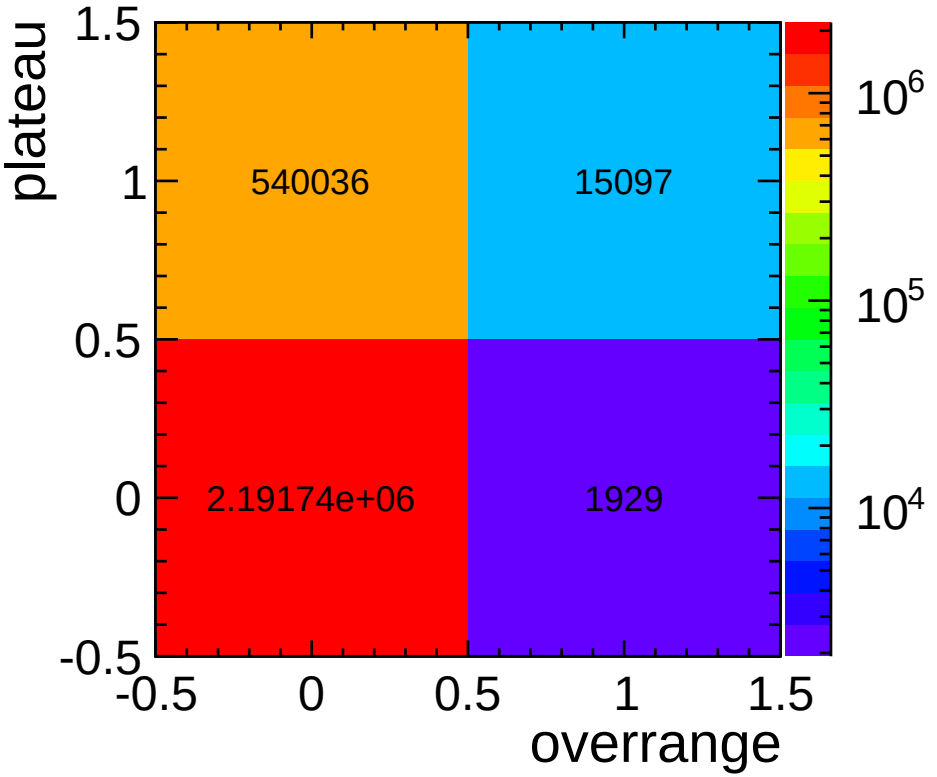


Defining Over-range



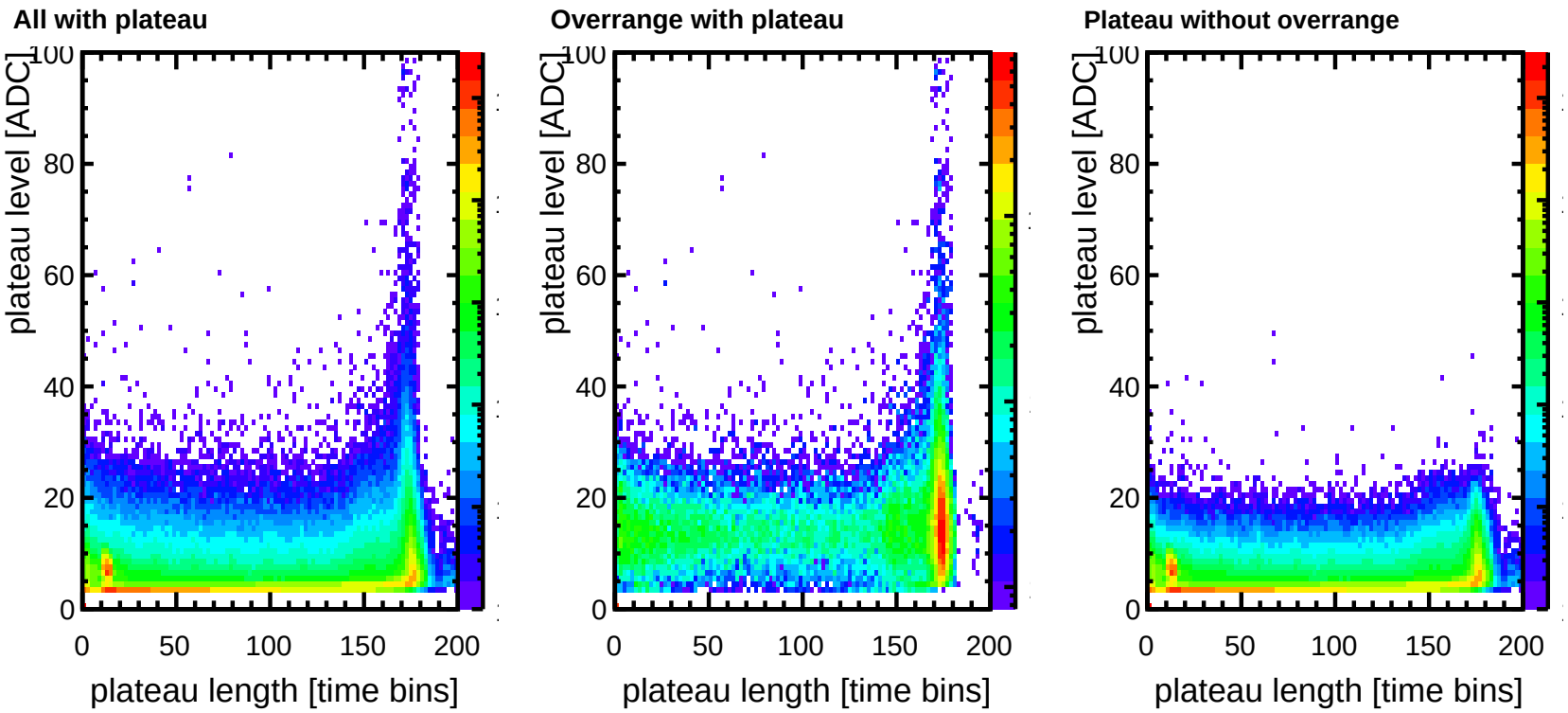
Study of Plateau

- Look for a plateau in raw pulse.
- Calculate length and average charge.
- Check for over-range.

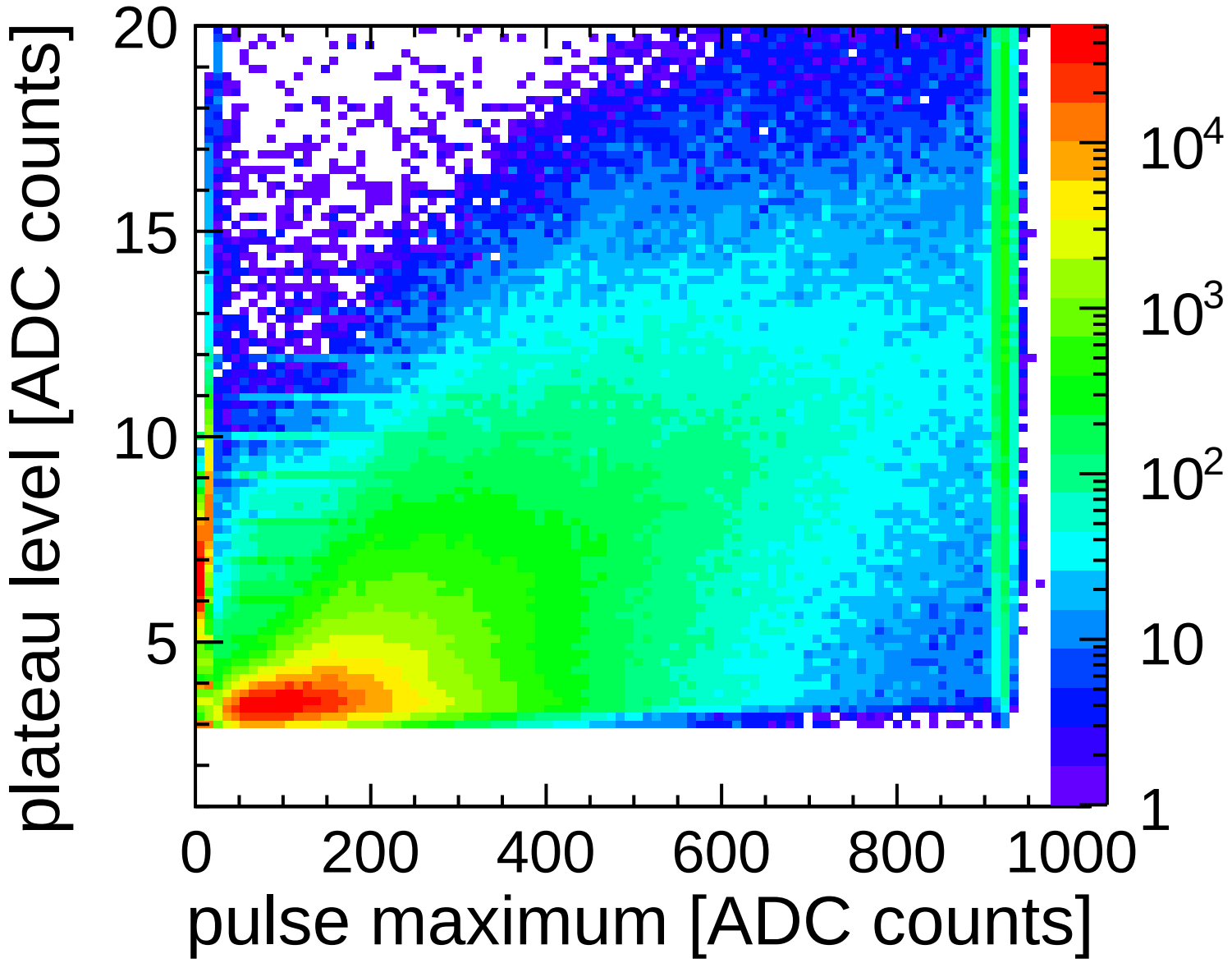


Number of pulses	2.748.801	
over-range	17026	→ 0.5%
plateau	555.133	→ 20%
plateau charge < 10 ADC counts	539303	→ 97%
plateau charge < 5 ADC counts	377654	→ 68%

Plateau Level vs Length

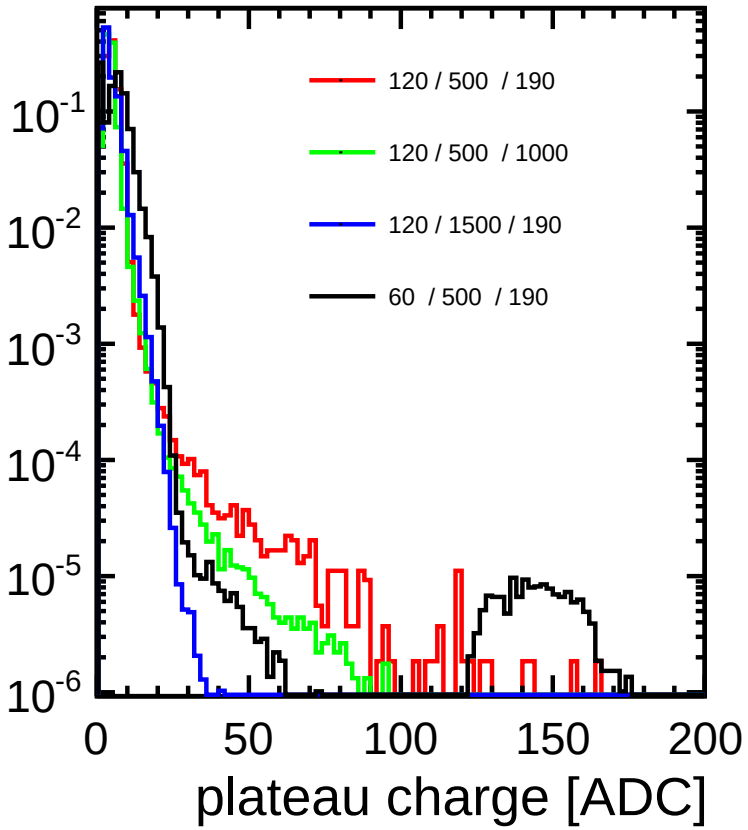


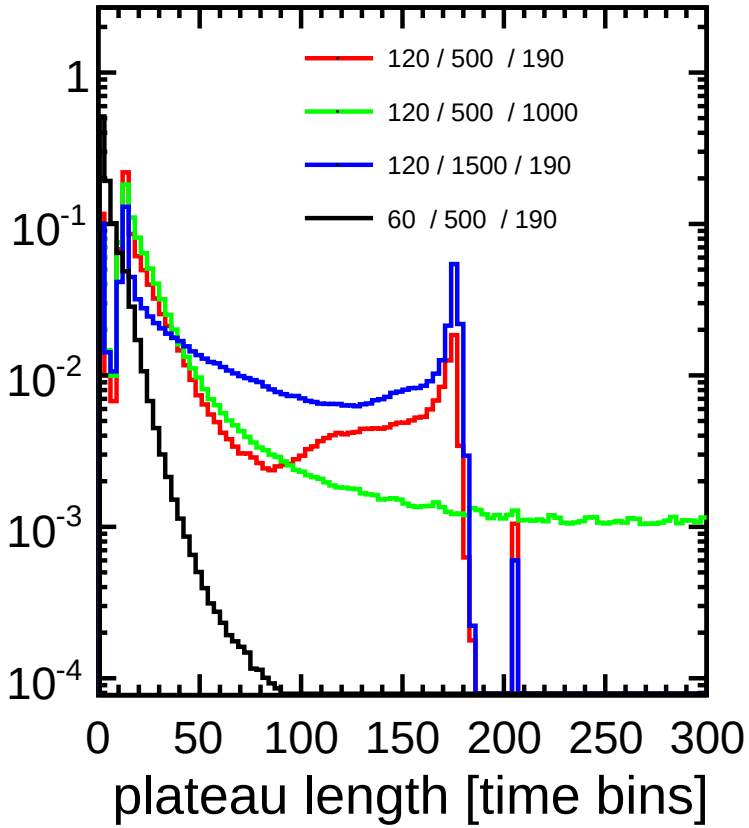
Correlation of Plateau and Pulse Height



Compare Different Electronics Settings

Shaping Time / Decay Time / Sampling length





*no over-range pulses

Plans

- Revisit pulse reconstruction
- Improve splitting procedure
- Account for plateau
- Try different methods to determine pulse charge
- Go through full reconstruction chain
- Test every step
- Analyze testbeam data