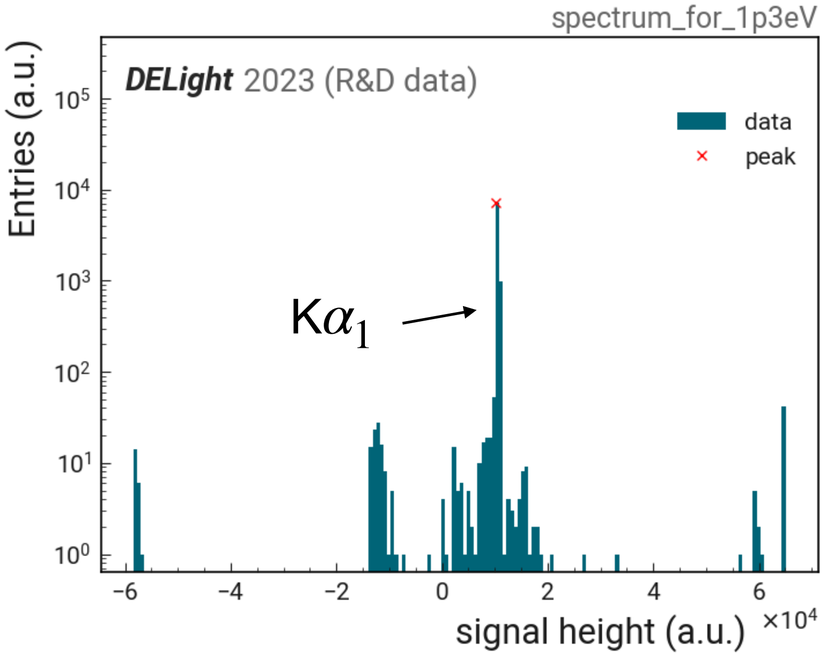
Template fit

inspired by R. Hammann et al.

- select subset of traces from Kα_1 line (highest brightness)
  - by signal height within 2% tolerance of Kα_1 line peak
  - clean traces by calculating pairwise quadratic difference of traces, discard if deviation from median difference > 2



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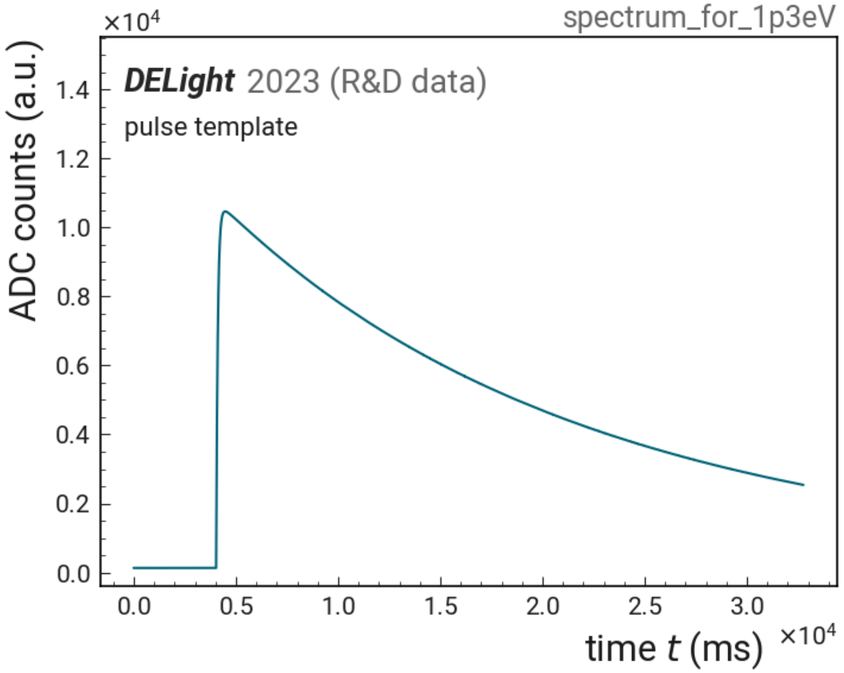

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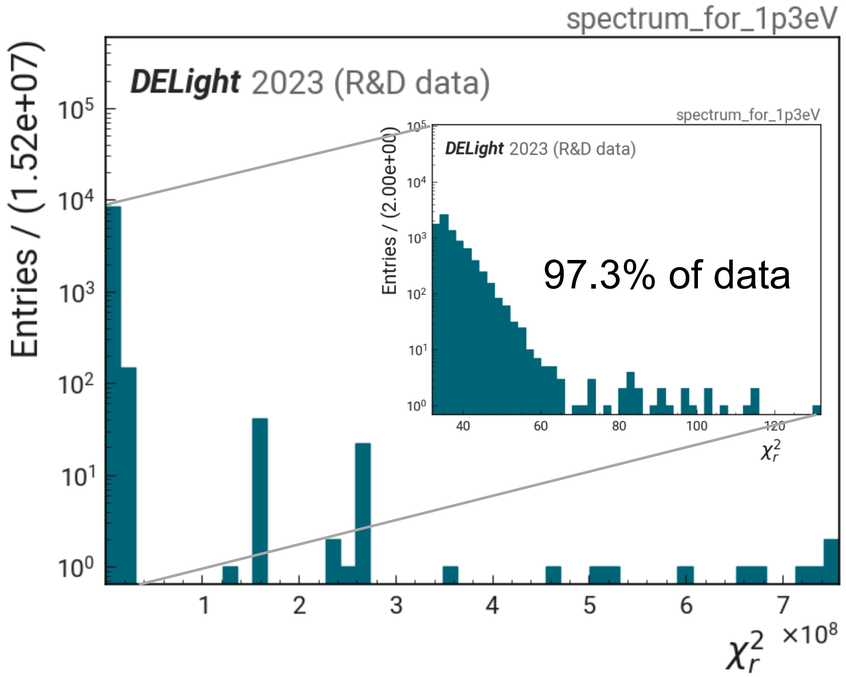
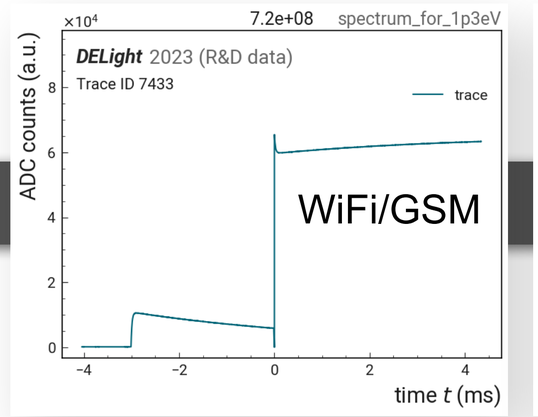
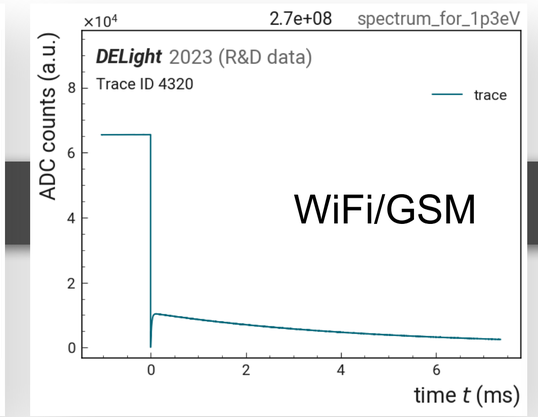
- average this subset (156 traces) for the pulse template
- template fit minimising $\chi^2_{\text{red}} = \frac{1}{\text{dof}} \sum_{i=1}^{f} (s_i - A\theta_i - O)^2$

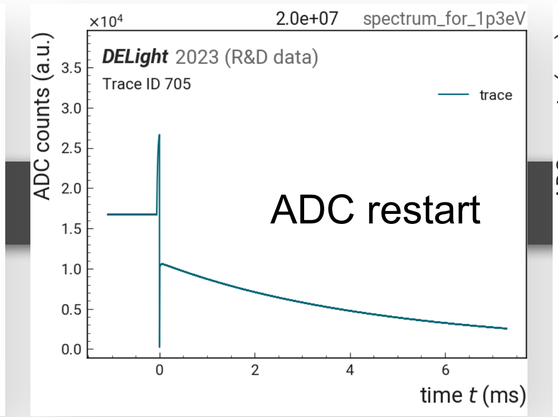
  with trace *s*, template θ, amplitude *A* and offset *O*
  - most traces have a „good“ χ^2 performance
  - *however, lowest χ^2 is 32 but should of order $\chi^2 \simeq 1$*

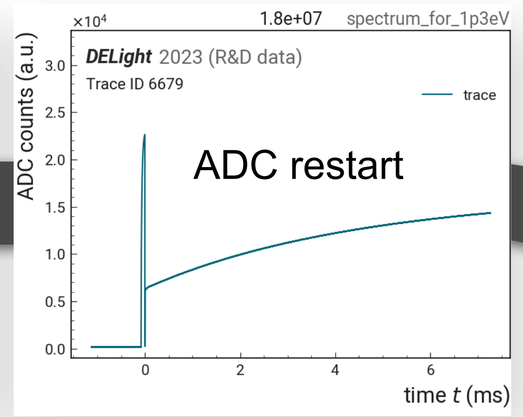


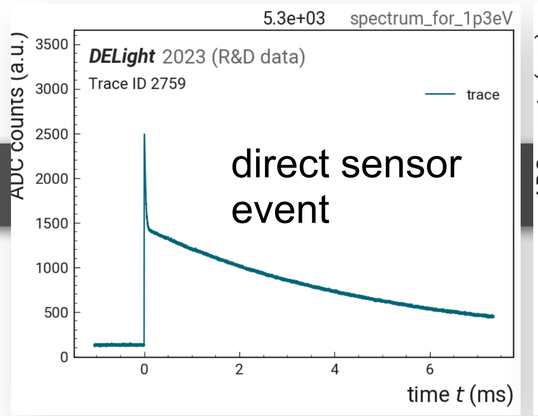
Template fit results

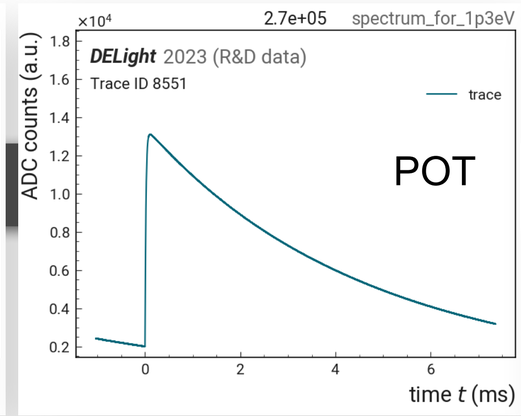


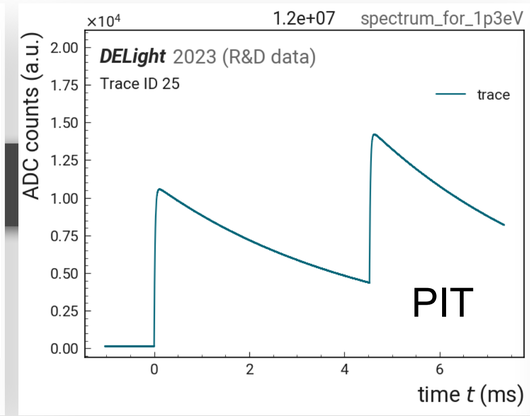


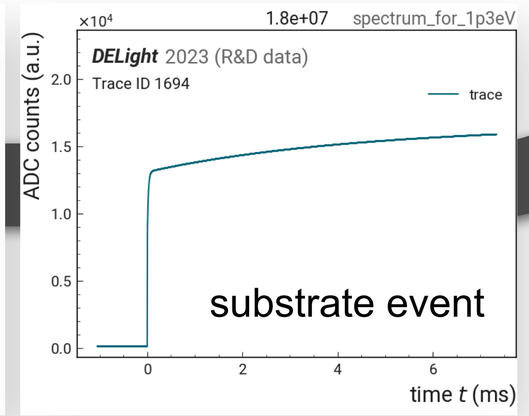
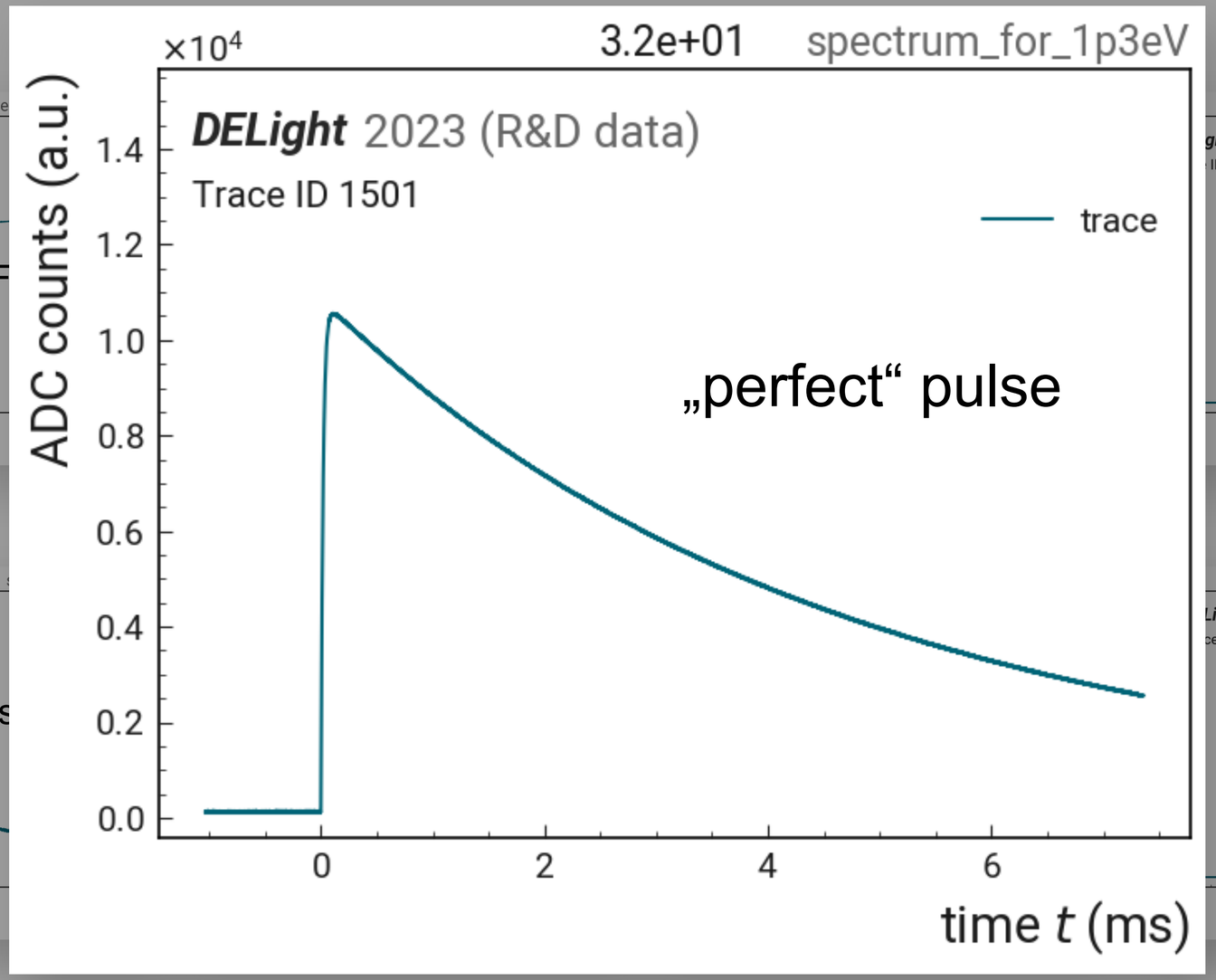








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