Shaper - FEM Results

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- Make 3 cuts on pulse A distribution
- Find max bin, look \( \pm 0.5 \) as estimate of digitization effect
- Charge distribution split by peak cuts
• Fit corresponding energy distributions
• Low (red), Med (blue), High (green)
• Take med component, estimator of mean summed charge
For each input A, plot mean
- Linear as function of input A

- Magenta: middle peak fits
- Blue: fits without cuts

- For each input A, plot $\chi^2$
  - goodness of fit parameter

- Cuts are indication better selection of sample selection
All Channel Fits

Repeat over all shaper channels

- Slope of fitted mean plotted over channel number
- Y-intercept of fitted mean plotted over channel number
- Shows non linearity at low energy (A < 4)
Channel 10, Less than SPE region

- Include A: 2 & 3. Response is linear

- \( A = 3 \) high \( \chi^2 \).
  Peak \( \pm 0.5 \) cut should be tuned
## Future

### FEM - Shaper
- Finish taking data for channels 8, 9 and 14
- Investigate lower A region and determine linearity

### PMT GUI
- Implement with Win Driver functions next week