Fourth Weekly MicroboooNE Meeting
Connor Callahan
Hardware
TPC Crate Tests

- Finishing with the final crates
- Waiting in optical cables to be delivered
- Running a million events on the FEMs that weren’t reliable before (about a day or two of testing)
- Retesting two small ASIC tests on a previous crate
Averages LED (1650)

**Averages for Ch1**

<table>
<thead>
<tr>
<th>average1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entries</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>RMS</td>
</tr>
</tbody>
</table>

**Averages for Ch2**

<table>
<thead>
<tr>
<th>average2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entries</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>RMS</td>
</tr>
</tbody>
</table>
Normalized Peak Heights

Normalized by Peak Height_ch1

Normalized by Peak Height_ch2
Normalized by Area

NormalizedPulses_ch1

NormalizedPulses_ch2

Entries 200334
Mean 95.42
RMS 55.47

Entries 200334
Mean 95.07
RMS 55.83
Deconvoluted Cosmics!

Late Light?

Late Light?!
Deconvoluted... LEDs?

Deconvolution High Gain

Late....light?..
And Yet....

Average LED Deconvoluted

Entries: 192
Mean: 8.016
RMS: 1.345

Gaussian

Entries: 1.0000e+07
Mean: 50.01
RMS: 0.246
Interesting Facts:

• Uses Gold’s deconvolution algorithm, Richardson-Lucy is also available but not as sensitive. (Also shot the Gaussian to infinity at some points)
• Low-Gain has much more variety, but also harder to find
• There IS some variety in the High Gain, but most follow that same shape and have the same ADC value at the same point
• For 50 cosmics, 11 low gain have something in that area, all different values. 27 Have something in that area, all with the same value (10695.5)