Systems Tests

• What are these?
  – Tests to check output distributions from a particular SAS software release (e.g. emv3r0402p09 used for instrument analysis workshop)

• What do they do?
  – Produce distributions that allow us to determine what the “pedigree” of the reconstruction software is
    – Thanks to Julie we are getting there with a standard set of plots
    – She implemented emv3r0402p09 as a baseline for us (since we used it for the workshop)

• What is in this talk?
  – We will show distributions that changed since the first data from the workshop
    – Initial version (baseline): emv3r0402p09
    – Significant changes detected in version: emv3r0402p17
    – Most recent version: emv3r0402p20 (no changes since p17)
ADC rises faster in baseline as compared to new version

What has changed?
Old version has a spike at low values
Why is that?

CalDigi Energy - sum faces/2

<table>
<thead>
<tr>
<th>CalDigi Energy - sum faces/2</th>
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<tbody>
<tr>
<td>Entries: 151131</td>
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<tr>
<td>Mean: 358.43</td>
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<tr>
<td>RMS: 153.93</td>
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CAL Bug

• Release emv3r0402p09 has a CAL bug:
  — Related to
    • http://www-glast.slac.stanford.edu/protected/mail/calsoft/0348.html

• Fixed in release emv3r0402p17
Summary

• Do we need to generate a new file for the 2 tower tests?
  – Sasha recommends it because of the CAL problem
  – Have people discovered other problems?

• Plan for future checks
  – First line of defense against software bugs (from user’s perspective)
    – If there is a problem we should not release the code to I&T during integration
  – Every time we get a release out we expect these to be checked
    – The more we look at them and the more people we have looking at them, the better the system tests will become. Please chime in and start looking at them!