

GlastRelease v14r7

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System Tests Report Summary

Comparison to [v14r6](#) reflects a change in the filter energy and status due to use of a new default job option. The job option makes use of new functionality in the EbfWriter (added in v14r5) to pass non-triggering events to the filter and addresses [JIRA GRINF-47](#).

Changes

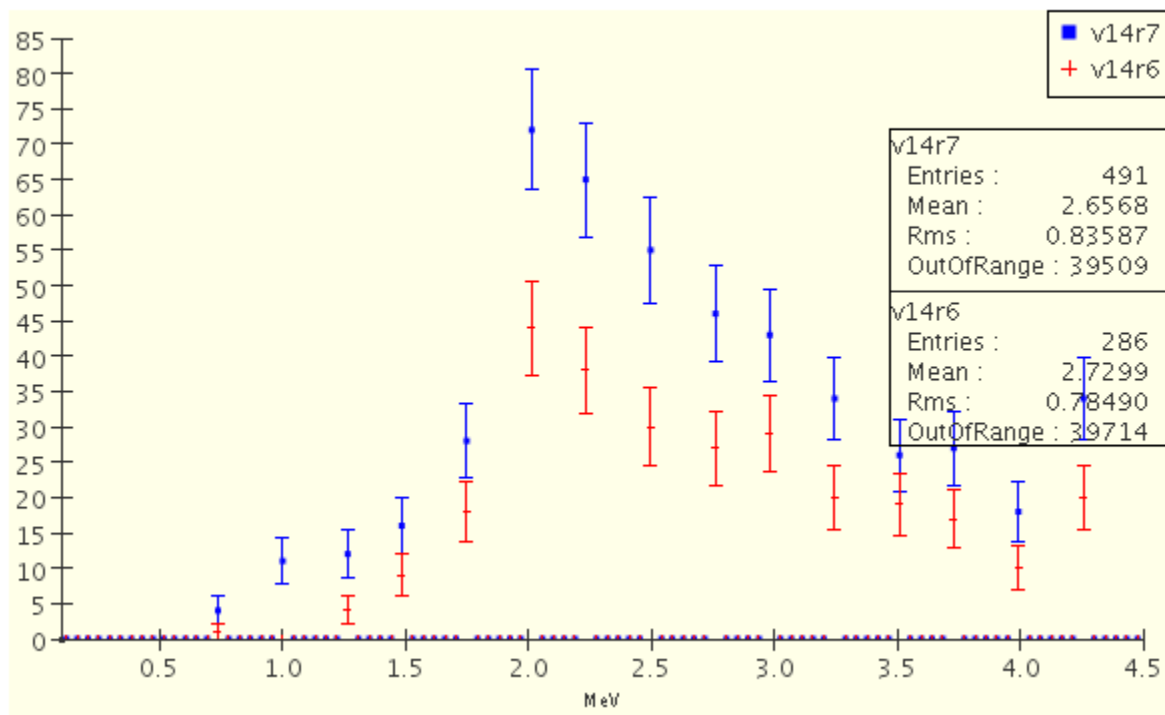
- EbfWriter – updated with option to ignore trigger bits, basic job option added to enable this behavior using EbfWriter.ReqGemTrig = false

Extra Filter Events

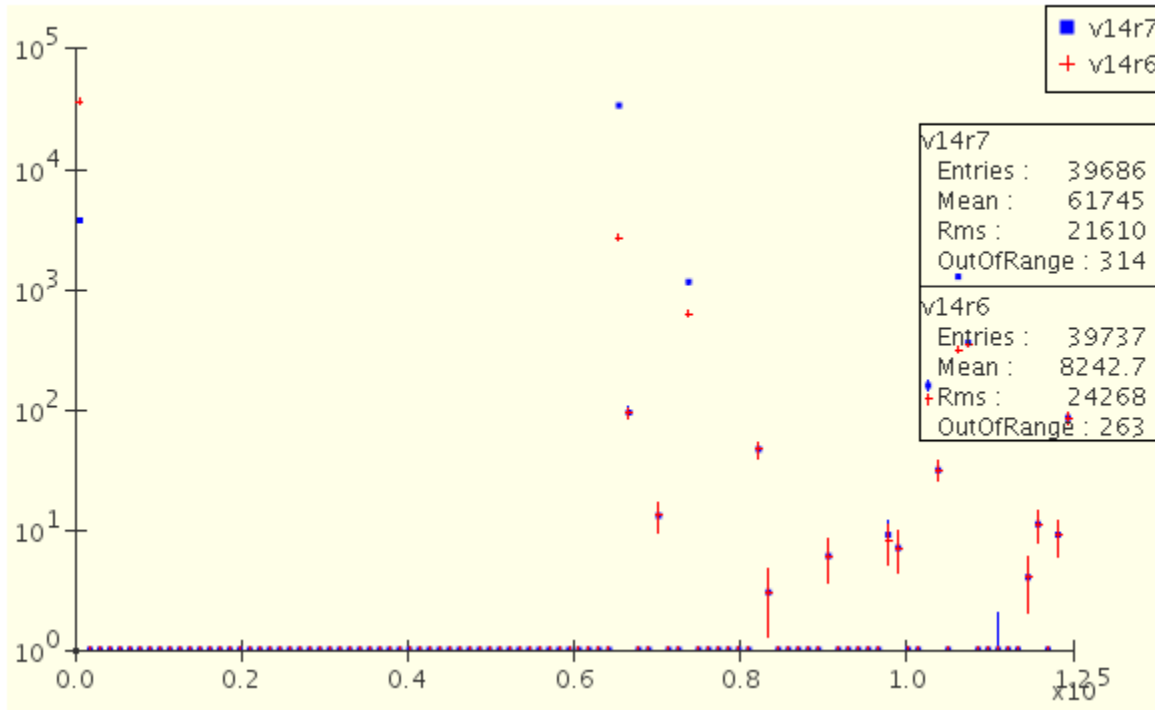
Under the old behavior the EbfWriter did not write events without a trigger. The update allows events to be written without a GEM trigger bit being set using a job option to turn off the requirement (see the JIRA for more info and rationale). The default job option sets EbfWriter.ReqGemTrig = false, meaning all events are passed to the filter regardless of trigger bit. In the system tests for v14r7, the default job option was used and so all 40000 simulated events have ebf data written as opposed to only 8097 events of the AllGamma simulation previously. As a result the filter energy (*top*) and high status bit distributions (*bottom*) have changed for the gamma tests. Many more events have FilterStatus_HI set and more events are passed to the filter and receive a filter energy. If the v14r7 histograms are remade with the requirement GltGemSummary>0, then they match the v14r6 plots.

No changes for the background mix, vertical proton and vertical muon tests because the filter histograms are not examined in those cases.

Onboard filter energy



OnboardFilter, 17 high order bits



Below are plots of the Filter Energy and FilterStatus_HI for GR v14r7 shown with and without the cut $\text{GltGemSummary} > 0$. To exactly match the FilterStatus_HI plot, events with $\text{GltGemSummary} == 0$ are given $\text{FilterStatus_HI} = 0$. Note that the pre-v14r7 behavior can be matched, and so the use of the new EbWriter option does explain the change.

