Trigger Simulation and the Athena Framework

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- TrigT1Calo: status & testing

- CTP simulation

- Athena: problems and comments

TrigT1Calo Status:
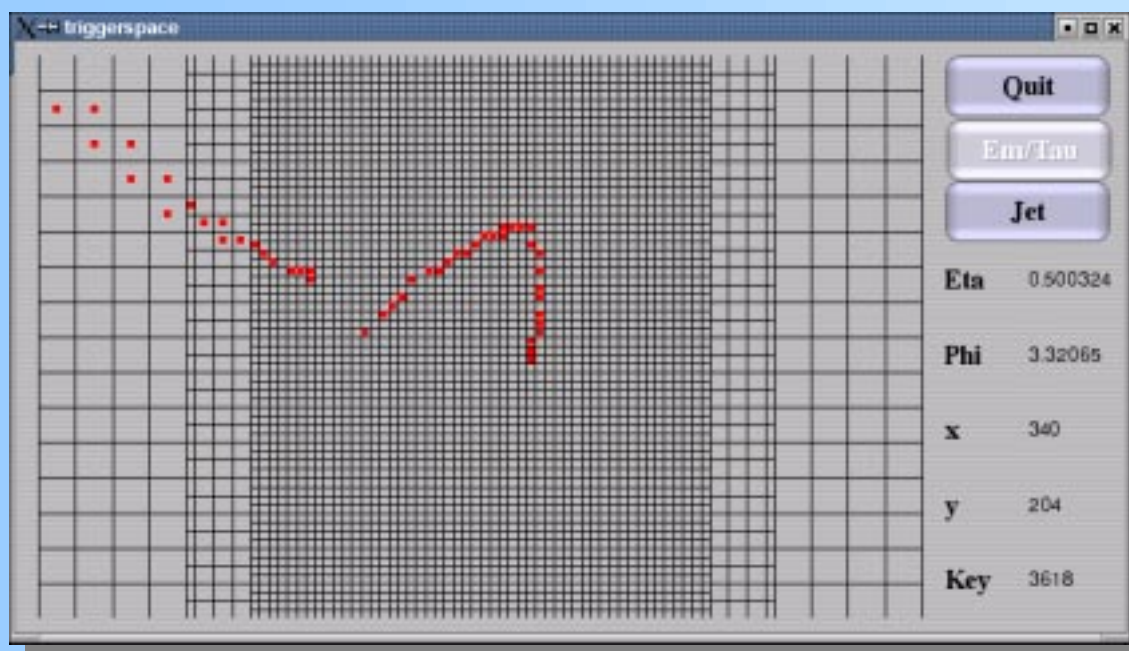
- **EmTauTrigger**
  - Following "mini code review" with Murrough Landon, it has been largely re-written.
  - Finishing ironing out (new & old) bugs.

- **JetTrigger**
  - JetElementMaker mostly written (i.e. produces Jet Elements, but only in central region so far)
  - Actual trigger algorithms still to do.

TrigT1Calo Testing:

- **"TriggerSpace" test application**

- Written in Qt/KDE.

- Uses actual "key" classes to generate graphics.

- Used it to find several (subtle) rounding error bugs – already very useful!

- … may be useful to test actual trigger algorithms?

TrigT1Calo Testing:

- **Will try to reproduce TDR plots**

  – Monika Wielers suggested it would be a good test

  – Obviously sensible, and I'll start once Jet Trigger is finished….

CTP Simulation

- **During the last ATLAS Week I met with Thomas Schoerner-Sadenius, who is working on CTP simulation.**
  - Extremely good news that this work is being done.
  - … and I think that it's good news that it's Thomas doing it: he seemed both knowledgeable and easy to work with.
  - I explained some of the potential complexity caused by our use of re-programmable FPGAs
  - When he had recovered, I produced our TriggerMenu implementation (written by Murrough and "tweaked" by me)
  - He has now modified his XML-based trigger menu description to allow easier interfacing with our code.

Athena

- It is still very hard to find documentation.
- I have not yet managed to install the latest releases remotely (and neither has anyone else I've spoken to)
  - The "remote installation kit" is buggy, based on a very old release (1.3.x) and so is essentially useless if you want to use Athena (no storegate support etc.)
- Eric passed my "comments" on, and I had an email from David Quarrie several weeks ago.
  - I pointed out that the information is out there (for instance I've now found - using google - a page explaining how to install releases 2.x).
  - … but that the Athena webpage has no links whatsoever to these sources of information.
  - I sent a list of URLs that I had found useful, and suggested he could add these to the page until the "Athena manual" is more advanced.
- … Not heard anything since and the webpage hasn't been changed
  - checked yesterday and link to "latest release notes" points to 1.3.2, a year old release.

Athena (2)

- – As usual these problems are caused by a shortage of effort, rather than lack of interest: the people involved in Athena are working very hard….

- – However, I think that work done *now* making Athena easier to use (mainly by improving the webpage) would save development time across the experiment as a whole. I personally believe it should be a priority.