An Online Analysis Scripting System

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What's This?

- Online Analysis Scripts are a collection of Hall A Analyzer based scripts, which process data right after DAQ.

- Target computer are adaql*x*.jlab.org

- Target users are shift works and experiment specialists

- This talk concerns the one used on recently finished E04007 and E08007

Advantages of the system

▸ Stable

▸ Up2date and Good Capability

▸ Self Protection

▸ Smart Inputs

▸ Easy maintenance

Components

▶ Analyzer, Additional Libraries (Bigbitelib)
▶ Reply Script
  ◦ ReplayCore.C, Def.h
  ◦ Replay_xxx.C
▶ Parameter Database
▶ Online Plots and Check
  ◦ Online_GUI
▶ Peripheral Code
  ◦ Batch Replay
  ◦ Set_golden

Code Libraries

- Analyzer
- Bigbite Library
  - A collection of Hall A analyzer based modules designed for Bigbite Family Experiment
    - BigBite Spectrometer
    - Trigger Plane
    - MWDC
    - Total Shower
    - Optics
    - Debug
  - Well Documented: http://www.jlab.org/~jinhuang/BigBiteDoc/

Scripts

▸ ReplayCore.C
  ◦ Find An Instance of Analyzer
  ◦ Look for Raw Datafile
  ◦ Get Reasonable Replay Number and Root file address
  ◦ Run the analyzer and Iteration through all segments of raw data

▸ A replay script
  ◦ Load all detectors
  ◦ Call ReplayCore.C

▸ Def.h, rootlogon.C and Peripheral Code

Compiled VS Noncompiled Scripts

▸ Fast Bug Sweep
▸ Minor faster execution
▸ Hard to maintenance

▸ Easy Operational
▸ Incomplete Support for C
▸ Hidden Bugs

Compiled Scripts

Non-compiled Scripts

Parameter Database

▸ Managed by CVS Daily back up (B. Moffit)
  ◦ Check out database for a specific day:

```
cvs -d :ext:cvs.jlab.org:/home/moffit/CVS co -r v20080611 DB
```

▸ Shared by all experiment

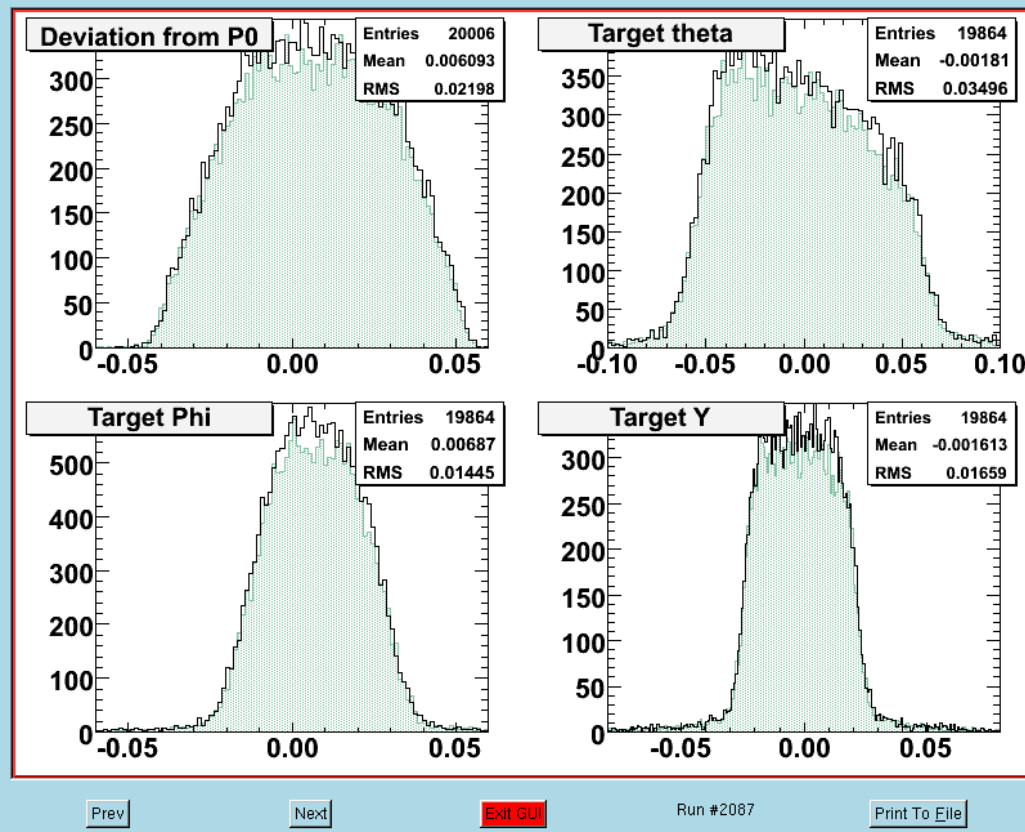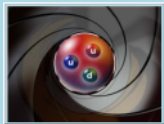▸ db_run.dat is updated after each run automatically (V. Sulkosky)

Online Plot and Checking

▸ Online GUI (B. Moffit)

◦ http://www.jlab.org/~moffit/onlineGUI/

◦

Directory Structure

▸ Link to replay scripts/files
▸ Link to \<Lib\>.so
▸ Link to ROOT File Directory …
▸ Read database from bbsoftw
	▸ \<Exp ID\>/onlana
	   ◦ Replay Scrips/files
	   ◦ Folder for ROOTFile …
	▸ Code Library
	   ◦ BigBiteLib
	   ◦ OnlineGUI (compiled)
	▸ database

adaq@adaql*x*:~ /\<Exp ID\>/onlana	bbsoftw@adaql*x*:~/

Where to read more

- Log into adaql*x* and *goonlana*
- Examples Downloads:
  http://www.jlab.org/~jinhuang/Meeting/2008.06.12%20Analyzer%20Workshop/Scripts/
  - NonCompile replay SDK: Replay_NonCompiled.tar.gz
  - E04007 replay final ver.: e08007OnlineSuiteFinal.tar.gz
  - E08007 replay final ver.: e08007OnlineSuiteFinal.tar.gz
- BigBite Library Documentation Page
  http://www.jlab.org/~jinhuang/BigBiteDoc/