Hall C User Howto

Experiment: HKS

Run analysis code in your directory

T. Miyoshi

June 17 , 2004

Abstract

This document describes how to run analysis code in your directory.

1 Preparation

First of all, set environment variables in your .cshrc or login file:

```
> setenv CVSROOT /group/hks/e01011soft
```

If you can not see work or group directory from your pc, then,

```
> setenv CVSROOT <yourname>@cvs.jlab.org:/group/hks/e01011soft
```

If required, set one more thing,

```
> setenv CVS_RSH ssh
```

Before checking out CVS, make sure you are one of members of c-hks group in /w/work1801/hks. If you can create any directory, it is ok. If not, ask Steve to add your username on c-hks group.

Make your analysis directory. For example, assume the name is *ana*. Go to *ana* directory. Then,

```
> cvs checkout e01011src
> cvs checkout e01011-replay
```

Then, source code directory and replay directory is created.

Go to e01011src directory, edit Makefile.in to change $OFFLINE$ in the 1st line. If your code is in /work/hallc/hks/<yourname>/ana/e01011src, then change it to

```
OFFLINE=/work/hallc/hks/<yourname>/ana/e01011src
```

Then, go to your e01011-replay directory. Go to SRC. There is no more $OFFLINE$ parameter in Makefile. Make sure INCLUDE and LIB are used for compilation in SRC.

2 Run replay

When you start today's work everyday, first execute in your e01011-replay directory,

```
> cvs update
```

to prevent parameter mismatching. Any parameters may be changed while you are in your dream. If you find 'C' during update it means the file is conflict. Please remove any conflict by yourself.

When you go to e01011-replay directory first, just do,

```
>./DO_FIRST
```

to create scalers, peds, epics, paw and paw/kumacs symbolic link. If you already have kumacs directory in paw directory, create backup directory and then move kumacs directory by renaming, for example, kumacs-bak, then ./DO_FIRST again. The paw/kumacs may be updated any more. We will update e01011-replay/kumacs.

Then, go to e01011-replay/SRC directory. then

```
> make
```

to compile updated program. After the compilation is succeeded, go back to e01011-replay directory. Then, edit REPLAY.PARM.

Make sure parameters, especially, see if raw data path is correct:

```
g_data_source_filename= '/.../..._%d.log'
```

(Note that run number is filled in %d when running the code)
hbook or ntuple is on/off:
; means off, no ';' means on,

```
g_alias_filename    = 'paw/paw%d.kumac'
g_histout_filename  = 'paw/%d.hbook'
coin_ntuple        = 'paw/coin%d.rzdat'
```

Do not turn on all the ntuple. or ntuple may not be filled correctly after memory is overflow-ed. The goal is to accumulate coinXXXXX.rzdat. Until cut condition is determined and you don't have good parameters for DCs, Cherenkovs and hodoscopes, do not turn on coin ntuple. You may copy c_ntuple_init.f and c_ntuple_keep.f from e01011src/ENGINE to e01011-replay/SRC and then test it. Before all parameter is settled, we may need to check parameters detector by detector, in this case we may use some particular ntuples.

To run replay,

```
./replay_script <run number>
```

The *replay_script* is just a shell script you can see it by 'more' or 'less' command. Executable file is in EXE/engine_replay which is created after make. actually, the options of replay are

```
grun=<run number>
gstart=<the number of events you skip>
gstop=<the number of events you replay>
g_config_filename=<config filename c.f. REPLAY.PARM.test,etc...>
```

Example:

```
./replay_script 50000
```

Run replay for run number = 50000 to the end.

```
./replay_script 50000 gstop=20000
```

Run replay for run number = 50000 to the 1st 20000 events.

```
./replay_script 50000 gstart=10000 gstop=20000
```

Run replay for run number = 50000 to 20000 events after skipping 10000 events. Eventually it replays from the 10000th to the 30000th event.

```
./replay_script 50000 g_config_filename=REPLAY.PARM.test
```

use your special config file REPLAY.PARM.test to this replay.

3 Bugs

(1) If you have used e01011-replay directory, new directory e01011-replay/SRC/LIB may not be updated correctly. Please first do checkout in your ana directory,

```
cvs checkout e01011-replay
```

(2) If parameter files are updated but archive is not fully updated, replay may not work. Until fixing problem, try compile codes in e01011src, 'make install', then copy LIB files and INCLUDE files to e01011-replay/SRC/. Committing source file is authorized to only analysis experts (Sumihama, Lulin and Fujii(?)). If you want to change source code ask the experts.