Information for db_run.dat

- Read out everything from raw data file
  - Epics variables:
    - HRS momentum
    - Septum current
    - Target encoder position
    - IHWP status
  - Time information:
    - Prestart event time (db_run.dat will use this time)
    - Go event time (actual starting time)
    - End of run time
      - End event time (quite a lot of runs lost this event)
      - Calculated from scaler

End of run time

- Three end of run time
  - END event time
    - last event generated by CODA
    - not physics event
    - several runs lost this event
  - Scaler timestamp record in physics event
    - Scaler only readout every 1000 events, there might still be several event after the final timestamp
    - The accuracy depend on the fast clock
  - Scaler timestamp record by event builder (event type 140)
    - Another source of scaler timestamp

Epics information

- Read out epics without replay

- Calculate standard deviation for each variable

- Problem: No HALLA:p in raw data file

  - extract time stamp of each epics event

  - use time stamp to locate the HALLA:p in epics log

  - Script which can put HALLA:p back to the data stream

- HALLA:p in epics log lost something?