

Hands on session

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- EtaGen (Edwin Son)
<http://gwdoc.icrr.u-tokyo.ac.jp/DocDB/0059/G1605948/001/EtaGen.v0.1.pdf>
- Web-based tools (Hayama)
- Daily Summary Page (Hayama)
- Command line tools (Hayama)

Web based system

<http://157.82.231.187/~chino/>

- DailySummaryPage
- Web-Based Tools

HasKAL

- Tools for detector diagnostics, data quality study, noise hunting
- wrapper of KAGALI, LAL
- Language
 - Haskell
 - C
 - Python
 - (ROOT)

HasKAL

<https://github.com/gw-analysis/detector-characterization>

- attic : place to test, develop codes,
- HasKAL : main
 - exe-src : source codes of command line tools
 - src/HasKAL: collection of modules

- Constant
- DataBaseUtils
- DetectorUtils
- ExternalUtils
- FrameUtils
- GUI_Utils
- IOUtils
- LineRemoval
- Mathutils
- Misc
- MonitorUtils
- PSO
- PlotUtils
- SearchUtils
- SignalProcessingutils
- SimulationUtils
- SpectrumUtils
- StatisticsUtils
- Timeutils
- WaveUtils
- WebUtils

Quick look tools

- Channel related
 - existChannel
Usage: existChannel channel gps
 - existChannelNow
Usage: existChannelNow channel
 - showChannels
Usage: showChannels [OPTION...] file or showChannels gps
 - showChannelandSamplingRate
Usage : showChannelandSamplingRate [-f] gps[file]
 - showCurrentChannels
Usage : showCurrentChannels

- GPS related

- localtime2gps

- Usage: localtime2gps DATE [ST]

- DATE:: yyyy-mm-dd HH:MM:SS

- yyyy mm dd HH MM SS

- ST:: JST, UTC ..

- gps2localtime

- Usage: gps2localtime GPS [ST]

- ST:: JST, UTC ...

- getCurrentGPS

- Usage : getCurrentGPS

- ShowGPSInfo

- Usage: showGPSInfo frameFileName

- Data retrieval

- frame2stdout

- Usage: frame2stdout ch framefile

- removeSpace

- kagraDailyDataFind

- Usage: kagraDailyDataFind day(yyyy-mm-dd)
localtime(JST,UTC,etc)

- kagraDataPoint

- Usage: kagraDataPoint gpsstrt chname

- showKagraData

- Usage: showKagraData [-r(--resampleonly)] chname
downsamplefactor gps duration

- showKagraSpectrum

- Usage: showKagraSpectrum channel gps duration dtFFT

- Quick analysis

- filter

- Usage: filter ch fs f_cutt type[High, Low] stdin

- resampler

- Usage: resampler ch P/Q fs stdin

- plotter

- Usage: plotter -X ch fs t0 stdin

- plottimeseries

- Usage: plottimeseries [-r P/Q] [-o outputFile] [-i inputData] [-X] [-p figfile] stdin

- plotHistogram

- Usage: plotHistogram title min max #bin stdin

- plotspectrum

- Usage: plotspectrum [-X] [-p figFile] ch fs t0 dt stdin

- plotSpectrogram

- Usage: plotSpectrogram [-X] [-p figFile] ch fs t0 dt ot stdin

- Running Monitors

- runBruco

- Usage: Bruco yyyy mm dd hh min ss duration[s] fftsec[s] mainch ch.lst

- runCoherenceMon

- Usage: CoherenceMon yyyy mm dd hh mm ss duration fftsec ch1 ch2

- runRMSMon

- Usage: RMSMon yyyy mm dd hh mm ss duration fftsec channel f1low f1high f2low f2high f3low f3high

- runRMSMonSTDIN

- Usage: RMSMon t0 fs fftsec channel f1low f1high f2low f2high f3low f3high STDIN

- runRangeMonNSNS

- Usage: runRangeMonNSNS yyyy mm dd hh mm ss chunk[s] duration [s] channel

- runRangeMonBHBH

- Usage: runRangeMonNSNS yyyy mm dd hh mm ss chunk[s] duration [s] channel

- runRayleighMon

- Usage: runRayleighMon fs dtfft df ID onecolumnAsciiFile

- runRayleighMonDat

- Usage: runRayleighMon fs dtfft df ID datfile(one-column)

- runRayleighMonSTDIN

- Usage: runRayleighMon fs dtfft df stdin

- runSensMon
Usage: SensMon yyyy mm dd hr min sec dur fftsec ch
- runSensMonDat
Usage: SensMon fs dur fftsec ID ColumnAsciiFile
- runSensMonSTDIN
Usage: SensMon fs dur fftsec ID stdin
- runStudentRayleighMon
Usage: SRMon yyyy mm dd hh mm ss duration[s] chunklen[s] fftsec[s] dt[s] df[Hz] channel
- runLineTrackMon
Usage: LT yyyy mm dd hh mm ss duration nframe fcenter channel
- runLineTrackMon
Usage: runLineTrackMonSTDIN t0 fs nframe fcenter STDIN
- plot2DGlitchParameters
Usage: Usage: plot2DGlitchParameter [-l] startGPS[2010-11-11 00:00:00 JST] stopGPS[2010-11-11 00:00:00 JST]
param1 param2
(param : SNR, CentralFrequency, SNR, DQFlag, Significance, Size, Energy, Duration, CentralGPS~
- plotGlitchEvent
Usage: plotGlitchEvent [-l] startGPS[2010-11-11 00:00:00 JST] stopGPS[2010-11-11 00:00:00 JST] SNRlow SNRhigh
flow fhigh

Important Channels

- For iKAGRA

<http://gwwiki.icrr.u-tokyo.ac.jp/JGWwiki/KAGRA/Observation/iKAGRA/ChannelList>

- K1:LSC-MICH_CTRL_CAL_OUT_DQ
Online-calibrated GW signal in nm.

HasKAL installation

- 0. `cp /home/detchar/initHasKAL.bashrc`
- 1. `source initHasKAL.bashrc`
- 2. `git clone https://github.com/gw-analysis/detector-characterization.git`
- 3. `cd detector-characterization/HasKAL`
- 4. `sh -c 'GIT_SSL_NO_VERIFY=false stack build'`