Line Filter

- DMT class to find and remove lines (harmonics with the same fundamental frequency).

- construction: *LineFilter(f, fid)*
  - creates LineFilter object to remove harmonic lines with fundamental frequency *f* with filter *fid*
- data
  - linked list (*f*, *E*, $a_{n1} : a_{n2}$), where *E* - total energy and $a_{n1} : a_{n2}$ are amplitudes of harmonics *n1:n2*
- methods
  - $t_{out} = apply(t_{in})$ - find and remove specified harmonics. t_{in} - input time series, t_{out} - cleaned time series.
  - $find(t_{in})$ - find (*f*, *E*, $a_{n1} : a_{n2}$) for input t_{in} .
  - currently a quasi-monochromatic line removal algorithm from UF is implemented (*fid* = *0,1*). Other methods can be easily added.

Line Monitor

- consumer (background process) to track selected lines.
  - started by process manager
  - reads file with approximate frequencies of lines and run settings (updating rate, output,….)
  - run Line Filters for selected channels
  - dump (*f*, *E*, $a_{n1} : a_{n2}$) into output file
  - display requested information at specified rate
- would be useful to use existing monitors as a template (trigger and display monitors, DaqSlice)