sfit4 - pre/post processing python package

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The sfit processing environment (PE) is the machinery/tools surrounding the sfit4 core code. The ultimate goal is to:

- Create a directory structure to organize the output data
- Generate the necessary input files to run SFIT core code → Pre-Processing
- Execute the SFIT core code and error analysis on output → Processing
- Plotting results, HDF creation, analysis of retrievals → Post-Processing

The majority of the processing environment is written in python!

Distribution:

https://github.com/NCAR/sfit-processing-environment
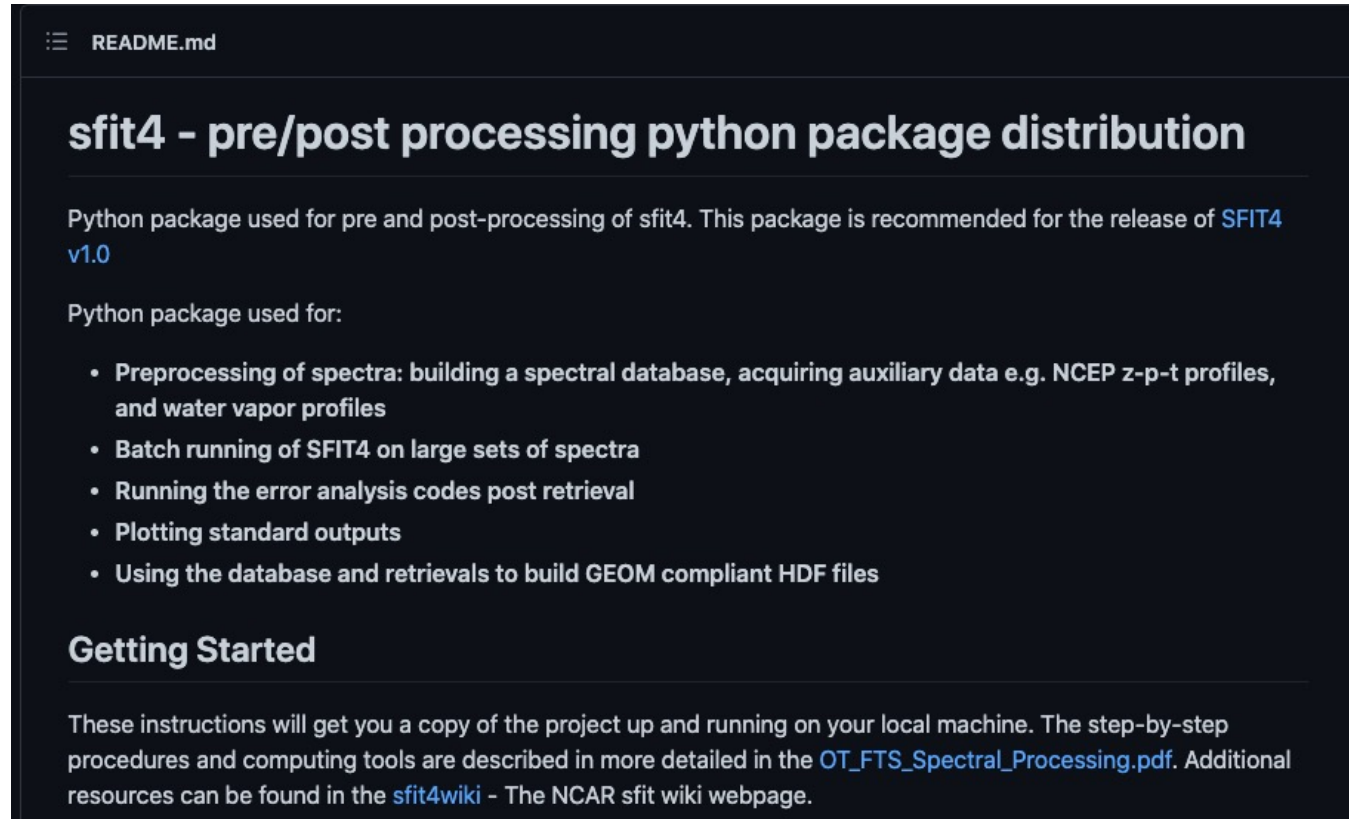
Branch: Official_Release_v3.0

This package is recommended for the release of SFIT4 v1.x

!!!Work in progress!!!

If you have feedback/recommendations let us know.

Additional resources:
https://wiki.ucar.edu/display/sfit4/SFIT+Processing+Environment

Updates:

- Python3 is preferred

- PE comes with "default" sb input for uncertainties.
  - ‣ aligned with PROFFIT
  - ‣ The traditional single sb.ctl used in sfit4 v9.4.4 is not implemented in the latest PE
  - ‣ Default file is input in the sfit4 ctl file as file.in.sbdflt.
  - ‣ *However, one might use the v9.4.4 approach by using the flag "-o" in Layer1 or Layer 0., e.g., to run error analysis through Layer 0: sfit4Layer0.py -fe -o.*

- PE supports temperature retrieval

- PE support reading of raytrace.los and reporting in GEOMS

- PE supports creation of FTIR v2 & v3 GEOMS template discussed in NZ (see slides Ian Boyd)
  - ‣ includes LOS
  - ‣ dry airmass profile
  - ‣ more auxiliary variables (RH, wind, …) + source fields for aux data
  - ‣ consistency in naming for apriori variables
  - ‣ fixed units for water (to align with other templates)
  - ‣ Note: source field for aux data needs to be improved.
  - ‣ Implementation of FTIR v3 template should be done in a short period of time … NDACC could allow the simultaneous submission of v2 and v3 only for a few months

  - ‣ So far PE has been tested for NCAR sites.
  - ‣ If of interest we can do a quick tutorial (virtually).