Outline for the IRWG/NORS Error workshop

1. Components of the IRWG standard error budget (40%)
2. Retrieval to HDF / batch processing / idlhdfcr8.pro (20%)
3. Error calculation programs (20%)
4. Sfit4 features for error calculations (20%)


1. Components of the IRWG standard error budget (40%)

Its critical for homogeneity of the IRWG wide archive that there is agreement on the components and how they are calculated. Currently we qualitatively define the following components for an IRWG error budget and classify as systematic or random for the HDF file:

Random:
a) Modulation amplitude
b) Modulation phase
c) Measurement noise
d) Temperature profile
e) Solar pointing
f) Interfering species
g) Fitted parameters (slope, shift…)

Systematic:
a) Retrieved gas absorption line(s) *intensity*
b) Retrieved gas absorption line(s) *air broadened line half-width*

And currently each group provides two aggregate covariances (systematic & /random) composed of some subset of these components. But the picture is not complete.

During this meeting we will:
a) Create a broad list of possible error sources
b) Categorize them into:
      i.    those that we can reliably calculate
      ii.   those that contribute negligibly
      iii.  those that yet need to be included
c) Define how to calculate those we include so each group does them equivalently.
d) Attempt to better define Systematic & Random – is this the best way to describe errors?
e) Are some components in both?


2. Retrieval to HDF / batch processing / idlhdfcr8.pro (20%)

While not critical to the IRWG archive in practice it would be efficient for a default standard batch dataflow.

During this meeting we will:
a) Review existing dataflows
      a. Gather retrieval outputs
      b. Perform error calculations
      c. Produce idlhdfcr8.pro inputs or similar

b) Define a dataflow any group can use
c) Is idlhdfcr8.pro adequate?
d) Attempt to implement skeleton batching

## 3. Error calculation programs (20%)

Groups have implemented different codes to calculate the error component for the subset of defined errors that they do. Given item 2 above & 4 below can this be streamlined?

## 4. Sfit4 features for error calculations (20%)

Users of PROFFIT have several features already in place. Here we will focus on sfit4 which has new features:
a) built in options for calculation of several $K_b$
b) new outputs specifically for the hdf input

During this meeting we will:
a) review new general features of sfit4 (inputs, outputs etc.)
b) review error & hdf specific features of sfit4
c) aid attendees in implementing sfit4