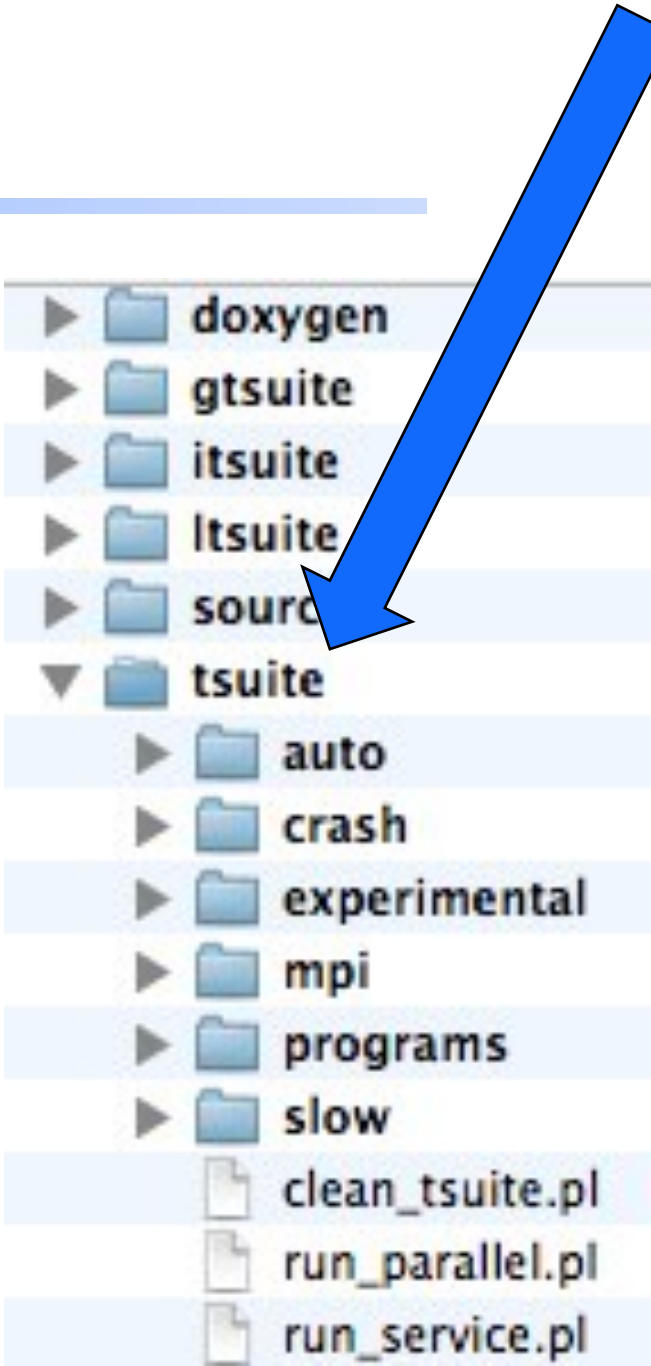
The test suite

- **Fully tests the code after any changes**
  - "Monitors" allow automatic comparison of current with previous results
- **Provides examples of how to use Cloudy**
  - But may include extraneous commands for testing
- **Useful examples of how to set up a simulation**



Running cloudy

- “run” file contains
  path-to-cloudy.exe -r $1 2>$1.err
- File “model.in” contains input, then
- Run model &
- Produces output “model.out”

Minimum to run Cloudy

- **Must specify**
  - SED – shape of the radiation field
  - Flux of photons per unit area
  - Gas density
- **May specify**
  - Gas composition, grains (solar by default)
  - Gas equation of state
  - Stopping criterion

Parameters – the SED

- Quick start guide Chapter 5
- Hazy 1, Chapters 4, 6

- Can be specified as a fundamental shape such as a blackbody

- Generally entered as table of points

SED brightness – the intensity case

- **Specify φ(H) – photons per unit area**
  - The “intensity case”
  - predicts emission per unit area
  - Inner radius of cloud does not need to be specified

SED brightness – the luminosity case

- **Specify Q (H) – photon luminosity**
  - Inner radius of cloud must be specified, since $\varphi(H) = Q(H) / 4\pi r^2$
  - predicts emission line luminosities

Cloud density

- “hden” command
- Constant density by default
- Other equations of state possible

Composition

- Solar, no grains, by default
- Other standard mixes possible