### All about logs ....

## Setting up AGN3 Sec 2.1

### Why did the simulation stop?

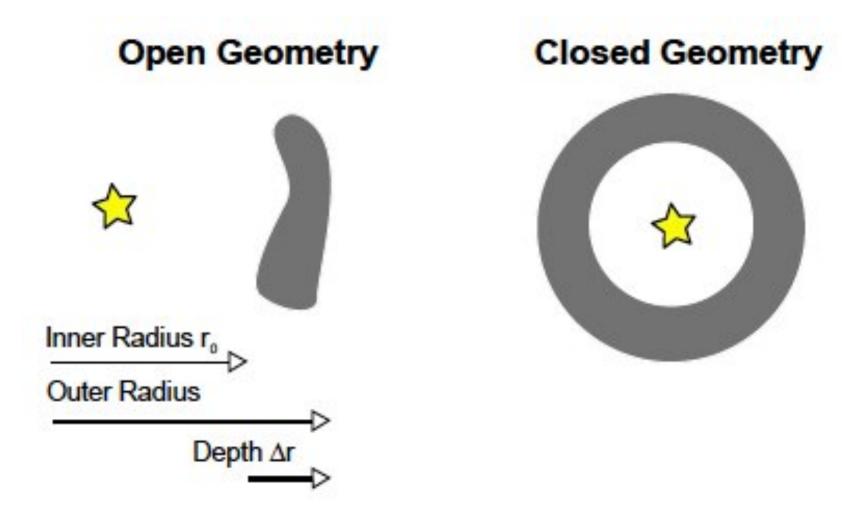
- Various stopping reasons given in Hazy 2, Sec 7.6
- Default is to stop when gas temperature falls below 4000 K, a region probably near the H<sup>+</sup> - H<sup>0</sup> ionization front.

– But is this what you want?

### Is something goes wrong

- Cloudy is designed to be autonomous and self aware
- The code should explain what happened

### **Open vs closed geometry**



## **Covering and filling factors**

- Covering factor
  - -AGN3 ...

### Filling factor, how to do clumps

-AGN3, hazy1

# Try again with "sphere" included

### The overview output

- ◆ Plot H<sup>+</sup>, H<sup>0</sup> structure
- ◆ Add He<sup>+</sup>, He<sup>++</sup>, He<sup>0</sup> to that
- Copy input script, rename save output, lower stellar temperature to 3e4K, do same

### **Plotting the radiation field**

### 14.40 Save continuum

This command is a primary mechanism for saving the predicted spectrum.

#### 14.40.1 Lines in the spectrum

Emission lines are included in the output for all save continuum commands except save transmitted continuum. They are visible in the net emitted continuum. Labels giving the strongest lines contributing to each wavelength are given in the third to last column in the save output. More than one line will contribute to many wavelength cells and the last column indicates the number of lines within that cell.

The print continuum indices command will list the labels for all lines that enter into each cell. This provides a way to see all lines that contribute. The print line sort wavelength can be used to understand the relative contributions when multiple lines contribute at a particular wavelength or energy.

### The rest of the output

Hazy 2, Chapter 7