

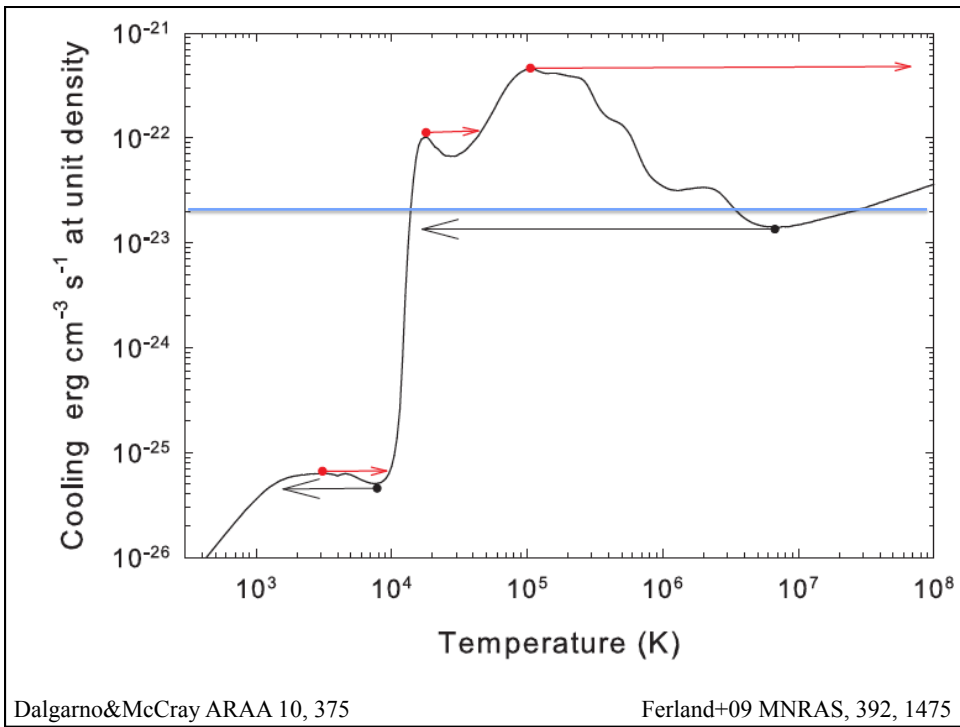
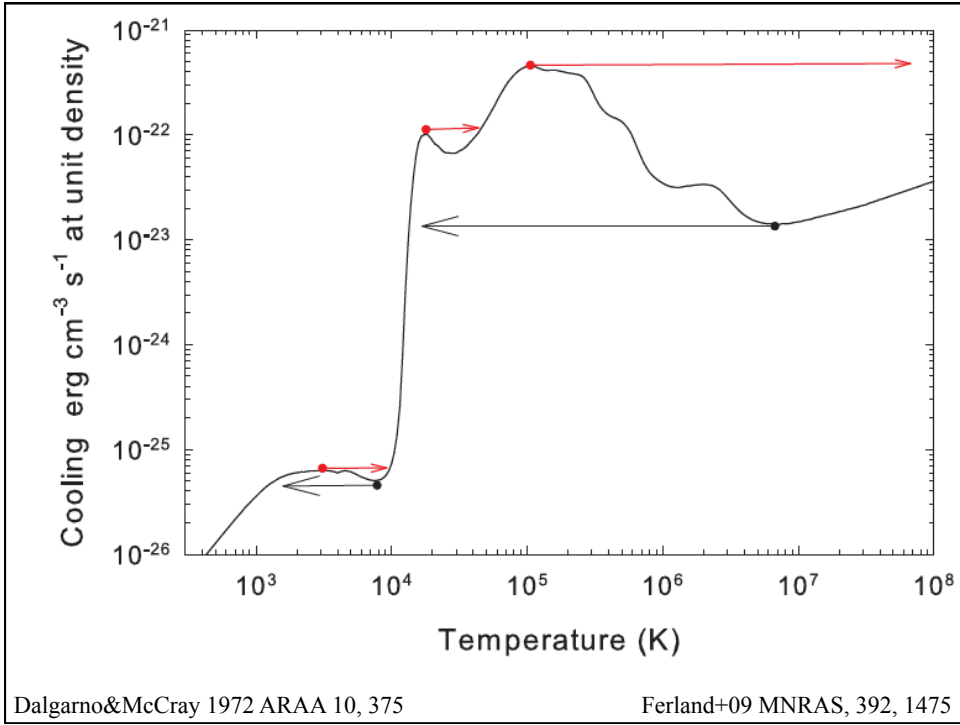
Coronal equilibrium

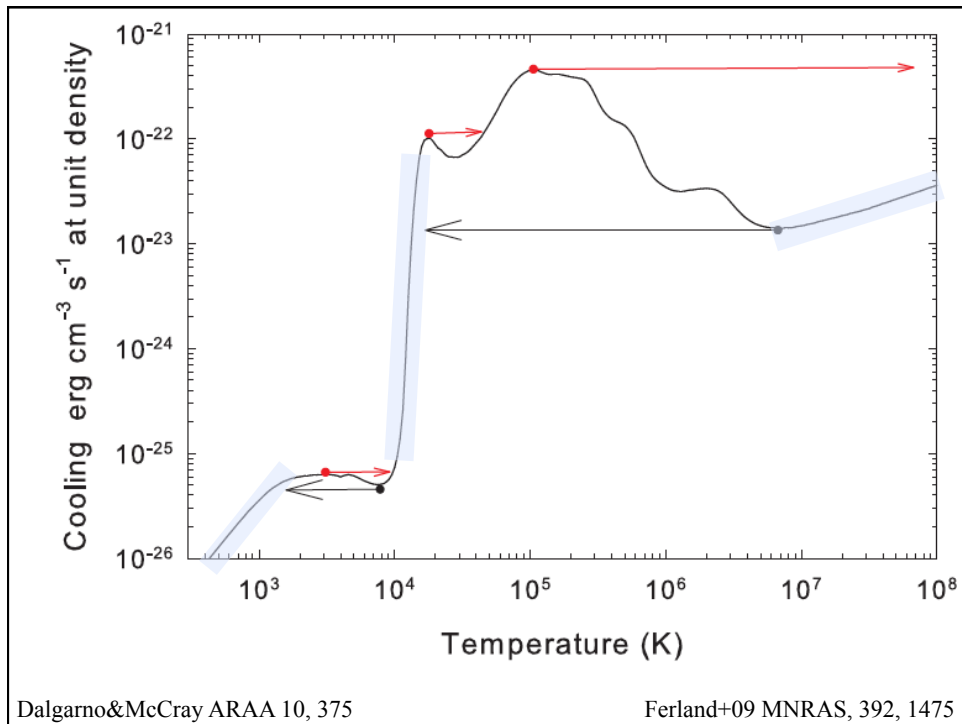
- ◆ Mechanical energy sets kinetic temperature
- ◆ “Coronal” command in Cloudy
- ◆ Try several T, plot SAVE CONTINUUM output



Grid command – cooling function

- ◆ Grid command Hazy 1 Chapter 18
 - Carefully study temperature log rules, Sec 18.5
- ◆ Coronal equilibrium command
- ◆ Save cooling output
- ◆ Plot cooling vs temperature





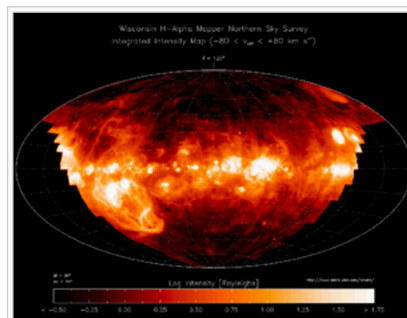
http://en.wikipedia.org/wiki/Interstellar_medium

Interstellar medium

From Wikipedia, the free encyclopedia

For other uses, see [Interstellar \(disambiguation\)](#).

In **astronomy**, the **interstellar medium** (or **ISM**) is the **matter** that exists in the **space** between the **star systems** in a **galaxy**. This matter includes **gas** in **ionic**, **atomic**, and **molecular** form, **dust**, and **cosmic rays**. It fills interstellar space and blends smoothly into the surrounding **intergalactic space**. The **energy** that occupies the same volume, in the form of **electromagnetic radiation**, is the **interstellar radiation field**.



Cloudy workshop



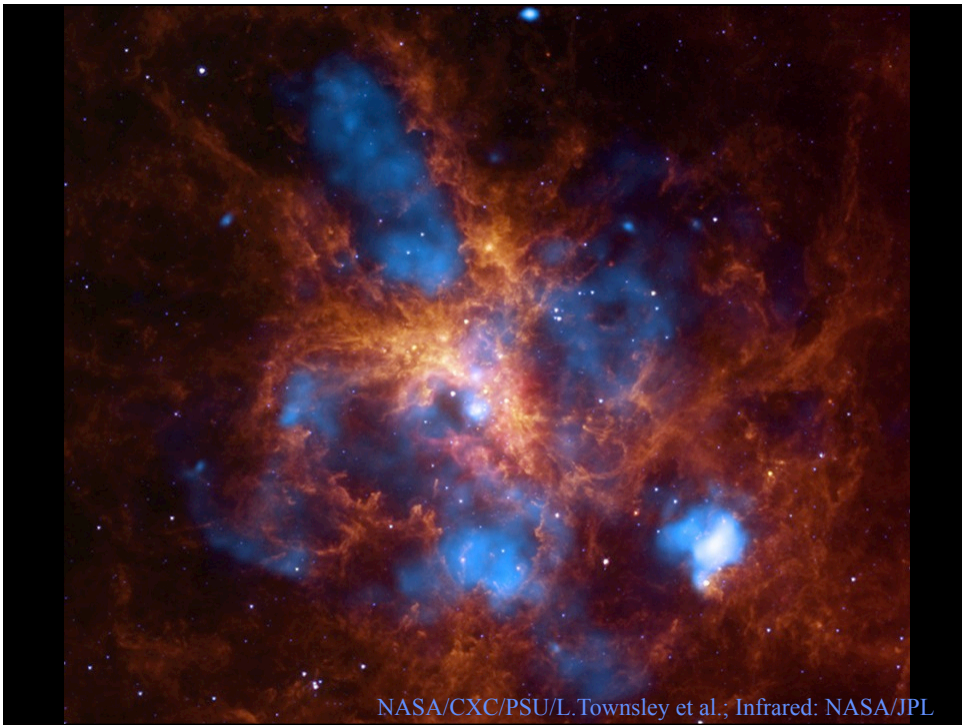
Star forming H II regions

- ◆ Hot young stars very close to the molecular cloud that formed it
- ◆ Ionizing radiation and stellar winds strike nearby molecular cloud



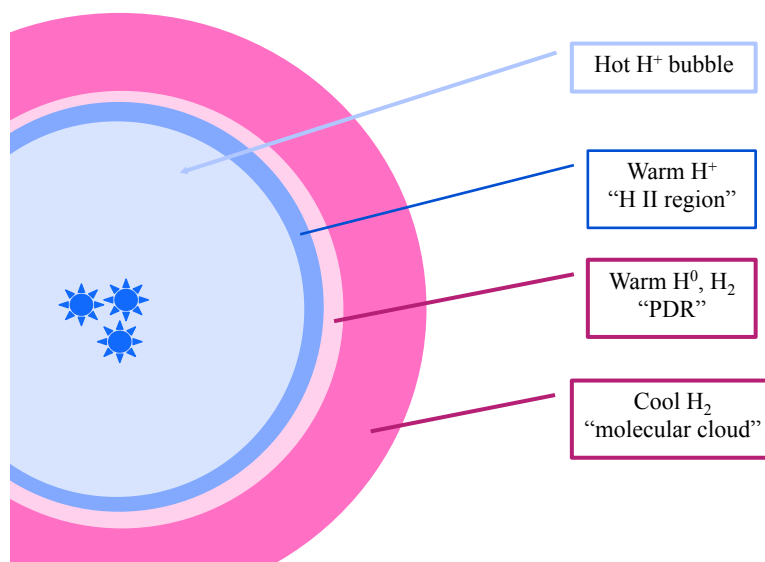


ESO



NASA/CXC/PSU/L.Townsley et al.; Infrared: NASA/JPL

Idealized structure of an H II region



Make spectra of stable phases

- ◆ **Cold, warm, hot stable phases**
- ◆ **Ccurve.in**
 - Remove grid, vary option
 - Leave ISM abundances
 - Save continuum (units microns), cooling
- ◆ **Compute stable points**
 - T=5e2K 2e4K, 8e4K, 1.5e6K, 2e7K

Vary Metals – constant temperature

Cloudy workshop

Vary Metals –temperature balance

Cloudy workshop

Three-phase pressure stability

- ◆ **tsuite / auto / ism_grid**

Cloudy workshop