INTERSTELLAR MEDIUM

GOALS:
- To learn about the interstellar extinction – the scattering and absorption of starlight by dust, including reddening and polarization.
- To learn how astronomers learn the properties of the dust grains.
- To learn how interstellar gas manifests its presence in space and what we learn from this.
- To learn about interstellar molecules, how they form, and why they emit.
- To understand the heating and cooling mechanisms in the ISM.

DUE:
Q. 1-5 Friday, April 23, 2010 (3 pm)
Q. 6-10 Monday, April 26, 2010 (5 pm)

READ: Chapter 14

HOMEWORK: (Sign the honor code at the end)

1. 14.1 (6 pts) [Extinction] (part b, do as a ratio)
2. 14.3a (6) [Extinction]
3. Q14.3 (4) [Reflection Nebula]
4. 14.8 (5) [Dust temperature]
5. 14.9 (let T_d=200 K) (3) [Dust temperature]
6. 14.15 (6) [Thermal broadening]
7. Q14.11 (4) [IS HI clouds]
8. Q14.25 (4) [CO cooling]
9. 14.21 (7) [CO population] (g_0=1, g_1=3)
10. 14.23 (5) [Energy levels]

Review sessions/Office Hours: This week
5:00-6:00 pm Thursday April 22, in my office or NSC 119
4:00-5:00 pm Monday April 26, in my office or NSC 119

Short Project 4: due Friday 3 pm – I would suggest that you aim to finish this on Thursday.

Special talk: Friday, April 23, 7:30-8:30 pm in NSC 224 – “Life After Death: White Dwarfs, Neutron Stars, and Black Holes” by Prof. Todd Hillwig

Video viewing – I have an interesting video on the death of stars (supernovae) and the birth of stars. I will try to arrange a time next week.