DEATH OF MASSIVE STARS

GOALS:
- To learn about the death of massive stars.
- To learn about supernovae.
- To learn about neutron stars, including neutron degeneracy.
- To learn about pulsars, rapidly rotating neutron stars.
- To be introduced to some of the properties of general relativity, including curved space, principle of equivalence, tests of GR.
- To learn about the properties of black holes.

DUE:
(a) Q 1-5: Friday, April 9, 2010 (3 pm)
(b) Q 6-8: Monday, April 12, 2010 (5 pm)

READ:
Chapters 11 and 8 (read 8.1-8.3, study 8.4)

HOMEWORK: (Sign the honor code at the end)
1. 11.1 (10 pts) [SN explosion]
2. 11.5 (5) [neutron star forces]
3. 11.7 (5) [escape velocity]
4. 11.12 (10) [pulsar spin-down (should be +b, not -b)]
5. 11.13 (5) [pulsar]
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6. 8.3 (5) [grav. redshift]
7. 8.5 (4) [Schwarzschild radius]
8. 8.7 (4) [Black hole]

Review session/office hour: Thursday, April 8, 1:00-2:00 pm, in NSC 119.
Monday, April 12, 1:00-2:00 pm, in NSC 119.

Video viewing – I have an interesting video on the death of stars (supernovae) and the birth of stars. Is there interest in viewing this together some afternoon or evening? I will bring the popcorn!

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