P630 Nuclear Astrophysics

Final Problem Set **C. Horowitz**

I ask each of you to present an informal 20 minute talk related to the class. Some suggested topics include:

Neutron stars: How structure of neutron stars follows from equation of state of dense matters and general relativity.

Atmospheric neutrino oscillations: Cosmic ray source of ν, oscillation evidence, long base line accelerator experiments.

LSND and Miniboone: Oscillation signal, why so striking if true, Miniboone program to check LSND.

Neutrino Phenomenology: Possible physics implications of atmospheric and solar δm^2 and mixings.

Dense matter: Possible phases of dense matter including meson condensates, quark matter, strange matter, and color superconductors, at the center of neutron stars.

Due dates

On November 25 (Monday before T-day) turn in a title and a one or two paragraph description of your project.

Week of Dec. 2-6 talk with me about your project and possible sources.

Talks will be presented two at a time on Dec. 6, 9 or 11. Note: Dec. 11, is last day of class.