PHY 474/374 **Spring 2021**

Grad Literature Review and Undergrad Project

Choice of Topics Assignment

Choose your first preference, second preference, and third preference from the list below and submit in the Dropbox by 5 PM on Friday (Apr 23). The dropbox will continue to receive submissions until 8 AM on Monday (Apr 26), with applicable penalties.

Your name: Timothy Holmes

1st Preference: Stellar Rotation

2nd Preference: Mass loss from stars

3rd Preference: Stellar mass Black Holes

(Grad) Literature Review Topics:

Graduate students will pick 5 recent papers for review from the topic assigned to you. The topics are:

- Mass loss from stars, including thermally and radiatively driven winds
- Astroseismology of high mass stars with space telescopes
- Pre Main Sequence Evolution of Stars (T Tauri, etc.)
- White Dwarf Cooling
- Physics and Observations of Type Ia Supernovae (not use as cosmological probes)
- Neutron Stars
- Core-collapse supernovae
- Gamma Ray Bursts (long duration only; connection to core-collapse supernovae)
- Stellar mass Black Holes
- Stellar Rotation

(Undergrad) Project Topics:

- Comparison of analytical and numerical solutions of the Lane-Emden equation
- Using a web-based modeler to evolve a star
- Plotting and understanding graphs of neutron star mergers
- Examining long duration Gamma Ray Burst data
- Working with astroseismology data on stars from Kepler