

## Questions for Nuclear Lunch on January 28

### Basics

1. What is a chemical potential? What do you mean by chemical potential of neutrino? Why is it different for different  $Y_p$ ? (**Linda**)
2. Interpret: Neutrino-sphere. (**Arbin**)
3. What is an adiabatic compression test? (**Nadyah**)

### Models

4. Interpret: Finite range droplet (**Tyler**)
5. What are RMF schemes? (**Yuanzhi**)
6. Point out the improvements/advantages of this EOS over the other EOS. (**Andrea**)

### Explanation of figures

7. How does the result for max. neutron star mass agree with observations? (**Taya**)
8. In figure 1, why is the virial gas/Hartree boundary so jagged as  $Y_p$  varies at low  $T$ ? (**Sushil**)
9. Why is there a cross over in the  $S$  vs.  $n_B$  plots (Fig. 5 a, b, c and d)? (**Nick**)
10. Why are these four temperatures chosen in (all) the plots?  $T = 1, 3.16, 6.31$  and  $10$  MeV are very specific numbers. (**Rekam**)
11. Are the “wiggles” from figures 9, 10 and 19 due to shell effects? Why does this model have shell effects while others do not? (**Shamim**)

### Mathematical questions

12. What is bicubic interpolation? What are its advantages? (**Brian**)