

## Nuclear Lunch Questions for 18 April 2012

1. Where do the s- and r-process occur? Can they occur in the same place? **Shamin**
2. What is the difference between an x-ray burst and a  $\gamma$ -ray burst? How are the x-rays in an x-ray burst produced? What are the other types of x-ray bursts, besides type-I? **Linda**
3. Are there other possible mechanisms, besides the rp-process, for producing x-ray bursts? **Anthony**
4. How do the energetics of the Sn-Sb-Te cycle cause the rp-process to stop here? **Nowo**
5. If the rp-process stops at Sn-Sb-Te, how are the heavier proton-rich nuclei produced? **Chen**
6. What are the nuclear properties of the waiting-point nuclei? **Bing**
7. Could the quiescent hydrogen burning that occurs in stars be considered a “slow proton capture process” – i.e., an sp-process? Why doesn't this work for heavier nuclei? **Harsha**
8. What causes the local overdensity that is required for the rp-process to occur? **Bijaya**
9. How and why does accretion occur around a neutron star? How is the accretion rate measured? **Brian**
10. What happens to the neutron star at the end of the accretion process? **Azamat**