

## Nuclear Lunch Questions for 25 May 2011

1. Where can you see s- and r-processes nuclei in the universe? Under what conditions are the r and s processes dominant? Do the r and s processes occur in hot stars like O type stars or they happen in all kinds of stars? **(Azamat)**
2. What is a branching point? **(Dilu)**
3. How are the solar abundances established experimentally? **(Bing)**
4. Why are the peaks for the r- and s-process abundances separated? **(Cody)**
5. How does the neutron capture process occurs? Does it form magic number nuclei? Why does it happen even though it is not going towards a valley of stability? **(Novo)**
6. Does neutron capture happen also for elements with mass lower than Fe? Is it comparable to fusion or does it not happen at all? **(Bijaya)**
7. What is the neutron density in the core of a reactor? **(Anthony)**
8. What kind of neutron densities and temperature are needed for the r process? Where would these parameters be located? **(Ken)**
9. What are the other models or processes that explain the formation of stable nuclei other than the r and s processes? **(Harsha)**

