Nuclear Lunch Questions

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1. Why is the astrophysical S factor used instead of the actual cross section? In what ways do astonomers use S factors? **Linda**

2. Why is T > 1MeV significant for forming deuterium? What causes the weak force to freeze out? Why is T$\approx$ 0.07 MeV the limit for other light nuclei? **Sudhanva**

3. What is a magnetic transition (i.e. M1,M2...)? How are they different from electric transitions? **Brian**

4. Why should halo stars in the Milky Way have the same Li abundance as the early universe? **Nadyah**

5. How was the observation of the halo stars carried out? Why is the ratio of ^{6}Li/^{7}Li quoted instead of an abundance? **Andrea**

6. Why is $30 \leq$ E(keV) ≤ 400 the astrophysically relevant energy ranges for this reaction? **Arbin**

7. What is the probability of 3 deuterium$\rightarrow^6$Li + other stuff? Can this be a mechanism for lithium production? **Cody**

8. Figure 2.d and 2.e have negative counts. Is this due to the background subtraction? What contributes to the background caused by the rock (i.e. Rd, ^{40}K)? **Mamun**

9. What is the Mukhamedzhanov theoretical description of the ^{2}H(α,γ)^{6}Li reaction? What types of parameters go into this description? Why is this model used to describe this reaction? **Bijaya**