Observation of a correlated free four-neutron system

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1. How is the $^8\text{He}$ beam produced? How does the BigRIPS fragment separator contribute to this process? *(Yenuel)*

2. Why was the SAMURAI spectrometer chosen for this experiment? *(Justin Bryan)*

3. What is the difference between a resonant 4n state and a bound 4n state? *(Mike)*

4. How was a total peak significance of $5\sigma$ determined for the resonant structure in Figure 3 (Left)? *(Justin Warren)*

5. What are the differences between quasi-elastic and elastic scattering? *(Jacob)*

6. Final state interaction: What is it and how does it differ from resonance? How does this affect the conclusion of the experiment? *(Andrius)*

7. Why is there no bound di-neutron state? How do we know there isn't one? *(Bikash)*

8. $^4\text{He}$ is $2n + 2p$ and is stable. 4n has a very short lifetime. Why do the two lifetimes differ so much if the only difference is a few quarks? *(Pramita)*

9. What are the implications of a tetra-neutron resonance? Why is this important? *(Joseph Foy)*

10. Have there been searches for tri-neutron (3n) bound states? If 4n states are possible then are 5n, 6n, etc. states possible? *(Nisha)*

11. What could be some of the reasons for the discrepancies in the energies/widths of the different theoretical models? *(QMC, etc.)* *(Chirag)*

12. What is COSMA? *(Bradley)*