**Nuclear Lunch Questions for March 9th Discussion**

**Paper:**

1. The paper states that when nucleons are closely configured, an ellipsoidal shape arises. Are there any other prominent, or well-known shapes, that can arise? *(Shyam Chauhan)*

2. What is a Fujita–Miyazawa three-nucleon force? *(Justin Warren)*

3. What is the idea behind the 2-particle neutron drip line? Do we know if the theory presented in this paper agrees with it? *(Yenuel Jones-Alberty)*

4. Why was O-16 chosen to compare to in figure 4? How justified is it to consider the inner shell closed and non-interacting with the rest of the nucleons? *(Joseph Derkin)*

5. What single-particle basis is adopted in the paper? Is the value of $V_{\text{monopole}}$ dependent on the single-particle basis adopted? *(Jacob Murphy)*

6. In figure 5, why is there seemingly no correlation between the rest interaction and magic number? Do the authors understand $V_{\text{rest}}$ as inducing a non-spherical shape in nuclei? If not, how is the issue of shape ultimately tied to the binding mechanism near the dripline? *(Mahesh Poudel)*

7. If magic numbers don't drive the rest interaction behavior, how is magic number related to the rest interaction overall? *(Gula Hamad)*