Magic Nature of Neutrons in $^{54}$Ca: First mass measurements of $^{55-57}$Ca

9/12/18 Discussion Questions

- What are subshells? How do subshells work/behave? Why do we care? (Bishnu)

- Classify the different theoretical mass models used according to degree of phenomenology used and comment on similarities/differences. (Som)

- Why not just use the $m/q$ vs TOF relationship in the paper and instead use a 4th order polynomial? (Mahesh)

- In Fig. 3 the $S_{2n}$ seems like it is continuously decreasing. Does that imply that there is a shell closure at every point? How does a $\delta e$ value comparable or slightly smaller than another isotope indicate a magic number? (Taya)

- What is time of flight magnetic-rigidity method? (Doug)

- What is SHARAQ? How does it Work? (Joey)

- How does the wedge degrader at F1 remove the high flux of lower Z fragments? (Sudhanva)

- What are the CVD diamond detectors measuring? How do they work? (Chowdhury)

- What is a dispersion matching mode? (Robert)