

Questions from September 28 Nuclear Lunch Presentation

1. How have we determined that the universe is made up of 5% “known matter” and 95% dark matter and dark energy? What do we mean by “dark matter”? What do we mean by “dark energy”?

Shamim

2. Why do we assume the dark matter was totally created in the Big Bang? Could there be processes by which dark matter could be created by baryonic matter?

Linda

3. What does WIMP mean? If WIMPs exist, do they have to be dark matter? Are WIMPs the only type of candidate particle for dark matter?

Youngshin

4. What masses can WIMPs have? The paper only looked at $m_x < 10 \text{ GeV}/c^2$; could there be any higher in mass?

Azamat

5. If the CoGeNT has found WIMPs, can we determine if they would account for all of the dark matter?

Anthony Paul

6. What is the process by which the WIMP interacts in the detector to allow for experimental detection? Is the process different for the CoGeNT or DAMA experiments compared to CDMS or XENON?

Nowo

7. Why is the event rate from WIMPs expected to have an annual modulation?

Mongi

8. What were the primary contributions to the background signal in the detector? What effect was the shielding supposed to have on the background processes? Does the shielding effect the dark matter particles?

Bijaya

9. Are there any other processes that could contribute to the energy range in which the low energy exponential is fitted? How can the effect of other processes be constrained?

Cody