

Nuclear Lunch Questions

Dark Matter with Pseudoscalar-Mediated Interactions

April 8 2015

- Is the galaxy rotating with respect to its dark-matter halo? If so, how did this happen? (**Taya**)
- What is the typical velocity of the solar system with respect to the dark-matter halo? (**Sudanva**)
- What is a pseudoscalar particle? How do the properties of the pseudoscalar affect the dark-matter-nucleon interaction? (**Yuanzhi**)
- How do the authors infer that the mass of the pseudoscalar is 52 MeV? (**Sushil**)
- How was the nuclear recoil measured in these experiments? (**Nick**)
- What are Bayesian statistics? Why are they used in this case? What is meant by the 'S' subscript on the 99% confidence limit? (**Linda**)
- In Fig. 1, what is the difference between the two bubbles? Why do we look at the right bubble and not the left bubble? (**Nadyah**)
- What are the symmetries of the DM-Nucleon interaction? (**Shamim**)
- In the DM-nucleus scattering process, is it assumed that the DM particle interacts with a single nucleon? (**Cody**)
- How sensitive to the nucleon spin content numbers is the conclusion that g_p is much bigger than g_n ? (**Andrea**)