

Discussion session – CEvNS 2020

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1. What is the ultimate precision possible with CEvNS? What are reasonable timescales to get to %-level precision over the next few years, decade, two decades?
 - a. Neutrino flux, number of observable quanta/quenching, rate/mass/statistics, background level (especially the time dependent background)
2. What are the prospects & needs of the applied reactor monitoring community?
 - a. See a reactor turn on and off within days to weeks
 - b. Observe the fuel cycle evolution - need ~ 100 eVnr threshold to be competitive with IBD
 - c. Need ~ 10 eV thresholds to unlock new signatures at sub-IBD threshold (e.g. Pu breeding)
3. What are the needs of the experimental community in terms of:
 - Background reduction and stability?
 - Quenching factor measurements at the lowest energies?
 - Neutrino sources (reactors/beams)?

4. What are the realistic goals of a Solar (or Supernova) neutrino CEvNS measurement?

5. What are the needs of the theoretical community? How do they connect to the experiments?

- Anomalous large neutrino magnetic moment
- Massive mediators
- Weinberg mixing angle
- Sterile neutrino
- Non standard interactions at low energy.

6. What are the interactions we can measure besides CEvNS? (ALPs, MCPs?)

- Accelerator based dark matter searches

7. There is a high degree of overlap within the CEvNS and direct detection community, both in the detector technologies and in the individuals who are working in these fields. In a world with limited funding and manpower, is there more we can do to formally capitalize off the potential for shared resources and knowledge?

8. Synergy with other fields?

- Validation of direct search dark matter experiments w/ 8B
- Are there potential collaborations with condensed matter scientists to get more out of our detection technologies?