July 1, 2014 Minutes

Melinda Sweany and Tom Langford joined us to discuss neutron benchmarking and whether their detectors might be used underground at Soudan. Melinda discussed the MARS detector. It will be at KURF until end of December.  She was going to check with people on

A. The funding situation re NA-22 and future application/running of MARS

B.  Gauge interest in using it at Soudan:  what would we learn that would be useful to the nuclear security community? to HEP? about the instrument itself by going to Soudan. Our discussions centered on measuring systematics between MARS and NMM in the same location, as well as the neutron background at a deeper site.

C. Practical concerns with fitting it down the shaft - size and how much is easy to take apart, etc.

Tom discussed the FANS detector.  The initial concern was that the detector was too small to be useful.  Its niche would be in the mid-energy range (50-100 MeV) to bridge the gap between the S. Dakota LS and the NMM neutron detectors.  Some rates from DongMing helped better define what might be expected.   Tom was going to do some rate calculations and generally consider whether there would be statistics enough to justify either FANS or FANS-II.