

LSC Scientific Committee

20th Meeting

11, 12 May 2017

Canfranc Estación, Spain

Summary, Conclusions and Recommendations

The LSC Scientific Committee met at the Canfranc laboratory 11, 12 May, to assess progress and to make recommendations on the experimental program. The period under review has been very productive at the lab. ANAIS is assembled and taking first data in the configuration to be used for the physics run. The preliminary assessment of the new crystals indicates that a very important physics measurement is feasible. NEXT is operating fully and producing some very beautiful events. Commissioning continues but it looks likely that a critical background run will commence within a few months. ArDM is re-configured for 2 phase operation and the final run to complete the initial science program is likely to start soon. All of the smaller scale projects are reporting good progress. Installation of seismic sensors for the Einstein Telescope qualification was carried out the day prior to the meeting and, already by the meeting, preliminary data confirming that the seismic noise at the LSC is low in the important frequency range was obtained.

A very positive aspect to the recent meetings has been the introduction of potential new projects and this meeting was no exception. We learned of a new initiative to measure the underground neutron flux and spectra using CLYC scintillators. We heard of a new initiative to look for new short range interactions using a double membrane device – advanced-KWISP, and perhaps most significantly, we learned of a new initiative, CROSS, to search for neutrinoless double beta decay using special bolometers. This project has been funded by the ERC and has the potential to become one of the flagship projects for the lab.

The committee had a presentation from a specialist firm from Zaragoza on the benefits of an electromagnetic survey of the lab and of equipment that might be located in the lab. The committee lacked experience in the benefits of such a service but supported the Director's plan to initiate the first phase of such a program to identify the sources of noise in the lab environment both radiated and on the power lines. It was not clear to the committee exactly how the service might be used in the future but establishing links with such unique expertise so close to the laboratory could be very beneficial.

The committee was pleased to see that the Casa de los Abetos is being put to use. The day prior to the committee meeting, a large safety meeting was conducted in the new auditorium. It is a very attractive space for the outreach programs of the laboratory.

The committee remains very pleased with the performance of the Lab Director, Aldo Ianni. He has established very good communication with the astroparticle physics scientific community and it is these linkages that have produced the large number of new proposals for the laboratory. The committee recognizes and supports the attention to safety and review that is so essential in laboratories working in such unforgiving environments. In this respect, the committee is very pleased to learn that funding has been secured for the appointment of a full-time safety officer and that this position would be advertised soon.

The committee is also pleased to learn that two new fixed term scientist appointments have been supported. These positions will benefit all of the experimental projects but are particularly critical with the number of new groups coming to the lab.

The meeting agenda is appended.

The tentative date for the next meeting of the committee is 23&24 November 2017.