The Minutes from the Positron Source Group Meeting

 (People Attended: F. Alharthi, R. Chehab, S. Ogur, S. Wallon)

* Crystals are sent to INFN Ferrera and well received on June 21 afternoon.
* Sandry has achieved to get in touch with welding laboratory in Belfort (François Lanzetta). We need to send W material for the welding test. We discussed the possibility of sending W balls available in our lab ?!
* Regarding François’s suggestion Sandry decided to change the DAQ to the one from *Acquasis* in Paris. The price is ~4k €, and it has 17 channels. This DAQ allows direct commands as well as LabView Control. IJCLab cryogenics group also recommends. Sandry also asserted that the Nuclear Instruments DAQ is more expensive. Robert asked about the precision of the temperature measurement. Sandry responded that this will be determined during the tests in our Lab. Also, the DAQ system in MAMI should stay in the room where the temperature is constant (with AC).

Sandry also discussed the cable types, there are type K and type S. Type S can be used up to 1000 0C while type K bear 600 0C. The wire thickness is 10 μm. Cable management is required.

* We discussed the e-mail exchange with CERN-STI (Source, Targets, Interactions) group. STI put forward those:

- WRe is ductile but not very radiation tolerant.

- W is better but brittle.

So, they suggested to study Ta or Ta2.5W. For this reason, we contacted the AEMMETAL in China, the only company responded with a quote, we asked and got the quotes for those materials. The time required for the manufacture and shipment of all the materials are said to be **5-6 weeks** after the money transferred.

* Robert recommended to Salim and Fahad the study of the materials, gave tips about the radiation length of the alloys such that:

$$\frac{1}{X\_{alloy}}= \frac{1}{X\_{metal\#1}}+ \frac{1}{X\_{metal\#2}}$$

The material choice should be done regarding where the number of the secondary particles at maximum. Also one should needs to check the PEDD. For PEDD, the mesh needs to occupy a small volume, but instead of blindly increasing the number of meshes one should check the asymptotic behavior where the PEDD calculation stays constant for an increasing number of meshes.

Robert also strongly recommend the granular target since the energy dissipation due to the surface area is better for the spheres. The target choice favors the high Z material, however high Z brings about the high stress on the material referring to the research carried out by Peter Strievens.