Concluding Remarks (I) to the PERLE Collaboration Meeting (22/23.6.23)

Achille Stocchi (IJC Laboratory, Orsay)

Great progress in different parts of PERLE. Not yet homogenously in all sectors

- ➔ The big news of this last days/weeks and of the Coll. is that we are now moving to the DC-gun from RI. The consequences have been largely discussed. This could probably allow an acceleration in the planning.

- ➔ Great progress in machine beam dynamics with a very dynamic and young team! 250 MeV is also now quite well mastered.

- ➔ Great progress on HOM, cavities… Consequences is that a global technical review (HOM dumping scheme + cavity end cell design) to be settled before moving to fabrication. The Production of 4 cavity scheduled within the ISAS program (Starting from 2024).

- ➔ Progress on cryomodule part and the very relevant news that we got the ESS in kind from ESS iSaS program + matching funds will allow to be fully financed.

- ➔ We are also happy to see the new collaborators are very well entered in the coll. ESS-Bilbao with the first Buncher design; An-Najah Palestine with the magnets coordination and works with quite few novelties.

- ➔ An important issue is to take a decision on Booster which is the still not covered part. (see presentation of yesterday)

- ➔ A task force formed to work on the preparation of all the need documents for getting the authorization from our authorities (ASN) and above all to avoid to be declared as an nuclear installation (INB).

- ➔ Two studies are going on in parallel to see the best site for installation: IGLOO which is narrow but already very well prepared (it will cost less) / caveat: eventual problem of coexistence with ThomX. SuperACO much larger but needs heavier work (now are under evaluation) and it will be definitely more expensive.

SOME GENERAL CONSIDERATIONS

- ➔ We have decided a phase approach: first injection commission and then to 250 MeV before going to 500MeV. It is important to stress that the 250MeV with 20mA and 3 turns is already the demonstration of multi-turn – high current and > (from 1→X) MWatts machine ! This is so strategical for the future and also to be used for next ESPP strategy. We have really to come to that as soon as possible and 2027/2028 it is still a very good time to weight to the next ESPP even if it comes in 2026.

- ➔ PERLE then will become as ERL facility with all the future implementation → 500MeV with new cryomodule with all the energy-efficient solutions (FRT..; 4K…) which will be developed (.. in iSaS !)

- ➔ PERLE is important and in synergy with other projects FCC-ee, EIC, ESS upgrade. We hope that we can concretize better some concrete collaborations/common works.

LAST REMARKS. WE ARE IN A VERY PRODUCTIVE and nice phase, also critical.

- The success of some very promising initiative could be a game changer for PERLE (iSAS, Recovery plan projects...). Still not enough for the full PERLE construction
- Manpower largely not sufficient as soon as we enter in the next phase. In France we are keep going increasing the manpower. Action on going at IJCLab
- Collaboration is international, but should be better organized to run as a real international collaboration. We will come soon with actions and with proposals.