

PEPS meeting minutes 13/05/2026

It was a short meeting 35 minutes with 12 participants.

A) Communications (slides attached):

- Ioana/Yifan presented the comms developments as done by Yifan (new slides as there has been a bug fix in the calculation just after the meeting). A 2-tier system combining 2.45 GHz (station to a aggregate system, similar to Auger BSU) and 5GHz system from the aggregate to the DAQ. Conclusions: while in the lab now the system is rather stable (less than 0.01% losses), we still have losses of about 10% at long range and we need to improve upon that (several paths are investigated, for example the antennas need to be lifted at a certain height above the ground, etc). The chosen antennas are omnidirectional.

Discussion with Yosel, Matei, Patrick, Lukas, Yifan, Ioana:

- why not a directional antenna? If an omnidirectional antenna works is a more stable system (no wind effects, etc). But we have to investigate if a directional antenna would not be better for the signal attenuation.

- clarifications on the network configuration (about 40-50 antennas per aggregation point)

- can the stations talk to each other? No, it will consume too much if each station needs to listen, just the aggregation point will be listening.

B) Software, Lukas

- a ape protected with a PEPS user/psw will be provided, some fixes are still needed to compile on the latest Ubuntu.

- Lukas will send an email as soon as they manage to finish this (would be good to have it by next week, before the workshop in Osaka).

Discussion on Geant5 with Ioana, Lukas

- a change to the latest Geant4 produced differences in the IceTop simulations: has such an effect been observed in Auger? Ape provides Geant4 11.2.3, we need to talk to Tobias Shultz if any effects have been observed also in Auger.

C) PEPS workshop, Toshihiro/Ioana

- updated indico page available: <https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Findico.ihe.ac.be%2Fevent%2F2549%2F&data=05%7C02%7Cmateo.fernandez%40ulb.be%7Ccc92>

- if you want to present something, let us know.