**LhARA WP6 Meeting**

**Notes and Actions from meeting held on 20December 2022**

**LhARA wiki location for documents related to this meeting:** [**here**](https://ccap.hep.ph.ic.ac.uk/trac/wiki/Research/LhARA/DesignAndIntegration/Meetings/2022)

**Present:** Neil Bliss, Ajit Kurup, Kenneth Long, Hywel Owen, Jaroslaw Pasternak, William Shields, Colin Whyte.

**Apologies:** None.

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| **Actions** | **Description** | **Status** |
| 22-11-08-04 | **Will Shields** to explore the capability of GPT Optimisation programme (GDFSOLVE) | In progress |
| 22-11-22-03 | **Will Shields** to identify a list of anomalies, missing components or errors spotted in the draft Device naming Convention. | In progress |
| 22-11-29-01 | **Elisabetta Boella** to provide a new 3D particle distribution from the source. | In progress |
| 22-12-06-04 | **Chris Baker** to provide a CAD model of the Gabor Lens test bench | In progress |
| 22-12-06-05 | **Clive Hill** to import the CAD model into Creo to provide a better image of the Gabor Lenses. | Waiting for CAD model |

**Agenda:**

1. Actions from last meeting.
2. Simulations.
3. A.O.B.

**1. Actions**

All above actions in progress.

Neil will e-mail Chris Baker to remind him to provide the Gabor lense CAD model of the test bench.

Notes from the WP1.6 and WP1.3 meeting to confirm the Gabor lense parameters are still in progress.

**2. Simulations**

No presentations were made.

Jaroslaw reported that he had received 2 laser source files from Elisabetta. One with a huge amount of data containing all energies and the 2nd file for 15 MeV. Simulation checks with reference to HTs parameters are in progress.

Jaroslaw reported that he had performed some preliminary simulations that show 2 extra Gabor lenses, an extra drift and a quadrupole doublet will be required in the low energy line to match into the FFA injection line. The extra length of the vacuum system is estimated at 7m. Jaroslaw confirmed that he should be in a position to present the new configuration at the next meeting.

Colin proposed that since the nozzle is having such a significant collimating impact that impacts greatly on the design of the low energy line, it would be prudent to cross check the nozzle parameters.

**Action 2022-12-20: Colin Whyte** to organise a check of the nozzle parameters with the relevant stakeholders.

Ajit questioned the requirements for the low energy line cavity that provides phase rotation. Jaroslaw thought that a single cavity would be sufficient, space for more cavities would be available if needed. Bunce length, frequency, voltage should be available soon, as Jaroslaw has tasked his mathematics class with providing a solution to this task.

**3. AOB**

Next meeting to be held on 3rd January. Neil is on holiday until 16th January.

If the new baseline for the low energy line lattice is ready for an update to the CAD layout before 16th January, then contact Clive Hill directly [clive.hill@stfc.ac.uk](mailto:clive.hill@stfc.ac.uk)