JM 24/03/2022 **Ion Acoustic Dose Mapping Meeting**

**Present:** HT Lau, Anthea MacIntosh-LaRocque, John Matheson, Maria Maxouti

**Discussion**

Anthea has finished the simulation of the bowl-shaped detector array and has started commenting the code to ensure a smooth handover to Maria. Maria has started learning Matlab and k-Wave. Anthea is working on finishing the project work and will then concentrate on the report. This p.m. she will present her work to Ken and Jaroslaw.

John asked HT about how easy it is to get the energy deposited in the scintillating fibres from GEANT4. This is straightforward but we need an empirical conversion for energy to light output. The initial trials with fibres in the beam was not sufficient as the beam energy was not well known. Could be useful to set up this measurement in a simple way on a test beam in advance of assembling the SmartPhantom prototype. John has a meeting with Jeff Sykora later today, about assembly of scintillating fibres detectors. John is searching up costings for parts.

HT has been working on the code including comments in order to smooth the hand over.

Maria asked where in the code the energy deposition from GEANT4 becomes a pressure distribution for k-Wave. May be worth asking Ben by e-mail or next meeting.

Maria and Anthea discussed which next steps could be interesting. Possibilities identified were different reconstruction techniques and varying the angle of the bowl detector to the axis. Anthea has looked at the bowl size, radius of curvature and on-axis placement at different distances. Will report on these in the presentation.

**Actions**

Anthea, Maria, HT – keep in touch to ensure a smooth handover of the simulations work.

John: talk to the ISIS and CLF people who are building scintillation detectors, talk to Ken and Dave Newbold re RAL costings. Talk to Ken – possibility of light output beam test (Birmingham ?).