FETS Chopper Meeting 27-04-2016

Chris Wilcox (**CW**) Juergen Pozimski (**JP**) Charles Evans (**CE**) Jim Cahill (**JC**) David Zakhar (**DZ**) Gary Boorman (**GEB**)

DZ had circulated the beamline schematic showing the max dimension of the outside of the fast-chopper vessel. The internal longitudinal dimension is about 550 mm max.

CW has updated simulations for the transmission line electrode, but has not yet modelled the current density for the trace. The trace width (0.29 mm) is different from the Cern width (0.45 mm), but the Cern width is from a document from 2008. The modelled substrate is 100 mm wide, and has a few mm gap between the substrate edge and the internal boundary of the vessel, which gives good sim results (S11 < 30 dB). Substrate modelled length is 40 cm, but could be increased to 55 cm at the expense of sim time.

Fast chopper vessel feedthroughs – are N-types sufficient? Need to check Vmax and vacuum compatibility.

Slow-chopper vessel design has been started by Mike Clarke-Gaythor, and probably exists as a TurboCAD file. GEB will sort through MCG's old files to find design.

Fast electronics are being serviced, but not heard from Kentech regarding return delivery. GEB to test electronics and source a suitable cable for delivering HV pulse to fast-chopper vessel. The fast chopper rack contains about 1.5 m height of electronics, and the pulse generator (Tektronix TDG-5078) for both fast and slow chopper electronics. It will most probably be sited next to the blockhouse wall on the 'RF' side. Two new RF loads will need to be purchased to act as loads for the fast-chopper.

Slow-chopper electronics needs to be prototyped with final circuit.

ACTIONS

GEB to investigate N-type feedthroughs and inform CW.

GEB to find MCG's old slow-chopper vessel designs and pass to CE.

CW to continue with sims.

JP to arrange meeting with Fritz Caspers at Cern to discuss chopper design/comparison.

CE to start/continue slow-chopper vessel design.

GEB to check status of Kentech order.

GEB and CE to liaise with regard to the slow-chopper vessel and switch electronics integration.