

## Minutes RF structure meeting 27.02.2009

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### CCDTL (FrankGerigk)

- material specifications to the CERN Purchase Department, to visit the forgery in 10 days
- 1 tank composed by 2 preformed pieces flanged in the central plane (helicoflex) to avoid the e-beam welding of the cylinder with end plates

### PIMS (FrankGerigk)

- discussion between M. Vretenar and DG Heuer if the Poland manufacture could be considered an "in kind contribution". Yes, at the conditions: 1) Linac4 group responsible of the job quality; 2) Soltan Institute (Poland) should accept a price 10% less than the CERN workshop estimation

### DTL

- Status of the circuit model (FrancescoGrespan)
  - ◆ HFSS simulations to obtain value of the PC-DTube capacitance ( $=C_p$ ) using Quasistatic Approximation method: for a 3 mm spacing  $C_p \sim 2-3$  pF, increasing with the Drift Tube length (7-10-14 cm simulated)
  - ◆ Different PC modes give more or less the same value of  $C_p$ , as expected
  - ◆ writing of the circuit matrix as function of the DTL geometry (Gap number, PC number, PC position)
- Power coupler simulations (GiovanniDeMichele)
  - ◆ MWS simulations for the DTL Tank1 power coupler show a too long interconnecting guide (11.6cm). According to a first estimation it should be reduced by about 3cm.
  - ◆ At the moment the simulations take into account 80% of the unloaded Q, the worst case between the 2 methods applied for the calculation of the external Q and the beam loading.

### HOM

- Longitudinal beam dynamics (MarcelSchuh)
  - ◆ the beam dynamic routine is running!
  - ◆ HOM effects on the beam dynamic is included
  - ◆ small modifications were needed due to  $E_0 \cdot T$  changes for non synchronous particles in comparison to Joachim Tuckmantel's code.
  - ◆ Simulation with the actual SPL layout (2 sections, cavity spacing, etc.) started
  - ◆ Ask beam dynamic group for latest results of bunch jitter and bunch phase space, and source experts for charge jitter in order to have a realistic input.
- HFSS simulations:
  - ◆ Actual geometry of SPL cavities was analysed to get a list of HOM and their R/Q values (HFSS)
  - ◆ The frequency of the acc. Mode fits well with the superfish results, but not the field (no flat top field). Geometry must be adjusted in HFSS.
  - ◆ Difficult to know the real R/Q value because of the simulation symmetry planes

-- FrancescoGrespan - 27 Feb 2009

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