ESS CM EXPERIENCE LESSONS LEARNED

***Lesson learned from the ESS CM testing activities, technical commissioning and initial operation***

1. LINAC PARAMETERS
   * + - 1. Particle
         2. RF power
         3. Current
         4. Repetition Rate
         5. Beam energy
   1. CAVITY PARAMETERS
      * + 1. Operating Temperature
          2. Eacc / Qo
2. LINAC CONFIGURATION
   1. SEGEMENTED
      * 1. Focusing magnets
        2. Beam diagnostics
        3. Cryogenics distribution concept
3. CM DESIGN
   1. TYPES
   2. FOCUS ON ELL (HIGH BETA)
      1. Design
         1. General
            1. Cavity

Design considerations

Peak values

* + - * 1. Tunning system
        2. Power Coupler
      1. Cryogenics design
         1. Circuits Temperature /pressure

Helium supply cold mass (cavities)

Helium return cold mass (cavities)

Thermal shield supply

Thermal shield return

Power couplers supply

Auxiliar circuits (safety, purge, etc)

Pressure safety scale and devices

* + - 1. Interfaces
         1. Jumper (cryogenics distribution)
         2. Beam vacuum
         3. Isolation vacuum
         4. RFDS
         5. Instrumentations/diagnostics/
      2. Cavity alignment/ support system

1. CM INSTALLATION
2. Installation considerations
3. Transportation considerations
4. Testing
   1. Acceptance Criteria
5. Operation
6. Maintenance/ Repair Considerations
7. Lessons Leaned