

Controls & LLRF perspective at STF

Shin Michizono, Kazuro Furukawa

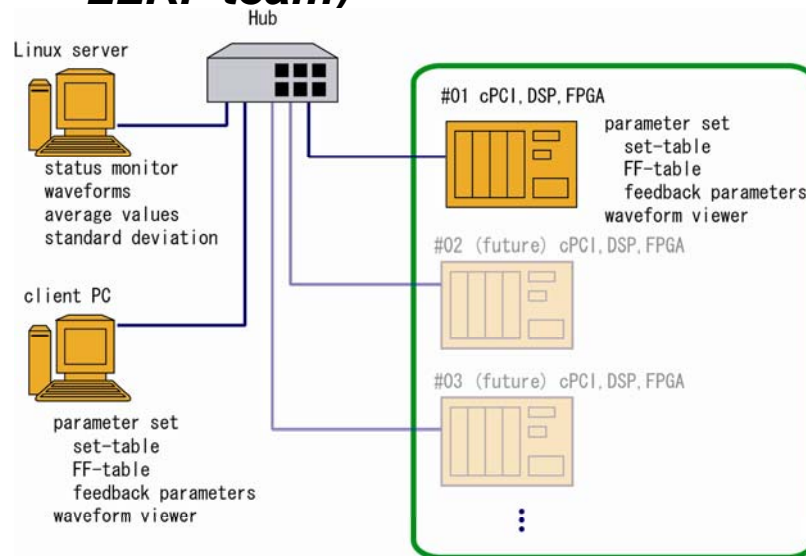
Aim of STF phase 1 / phase 2

- **Phase 1 (2005 -2008),**
 - *Build up ILC SC-RF technology and experts,*
 - *Establish 35MV/m cavity,*
 - *Establish 45MV/m cavity,*
 - *Build up SC-RF infra-structure.*
- **Phase 2**
 - *Design work starts on 2008 and operation will start from end of 2010.*
 - *Build ILC Main Linac RF unit,*
 - *Achieve ILC BCD performance,*
 - *Operate the unit for long time,*
 - *Establish engineering design detail and basis of cost estimation.*

Phase 1 (2005 -2008)

- **Instrument and operation**
 - *Operate 8 cav. Vector sum with cPCI digital FB system*
 - *Stability requirements: 0.3% in amplitude and 0.3 deg. in phase*
 - *Install EPICS to the llrf and other systems and operate with EPICS*

- **R&D and collaboration**
 - *Data acquisition using EPICS*
 - *FB algorithm development*
 - *Survey of field stability and perturbation (shared with world-wide LLRF team)*

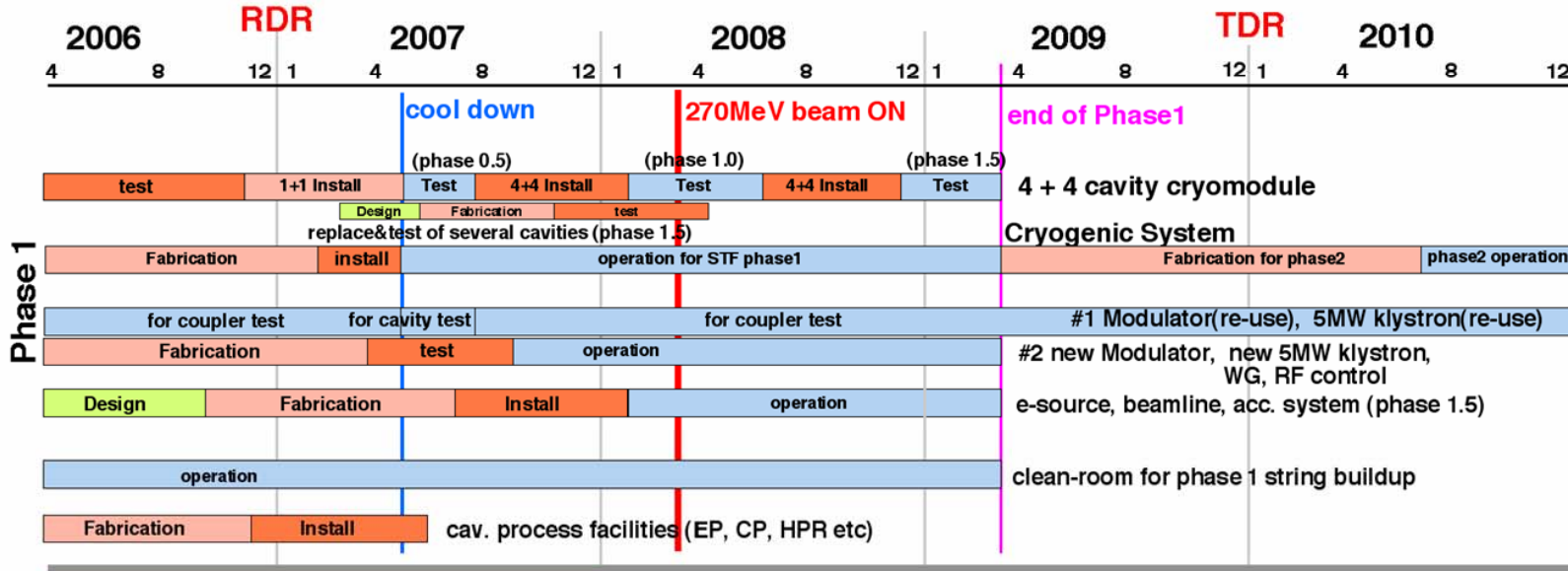


STF Phase 2 (2008 -2010)

- **Instrument and operation**
 - *Operate 26 cav. Vector sum with HA digital FB system*
 - *Stability requirements: 0.3% in amplitude and 0.3 deg. in phase*
 - *Install EPICS to the Ilrf and other systems and operate with EPICS*
- **R&D and collaboration**
 - *Develop 32ch reciever and FPGA board*
 - *Develop EPICS redundant IOC*
 - *ATCA/uTCA evaluation for control*
 - *Develop application of ATCA/uTCA (with Beijing and Shanghai)
(example: watching power-line...)*
 - *Timing/Event system collaboration in ASIAN region (with Beijing and Shanghai)*
 - *Algorithm of beam based diagnostics (with FNAL and DESY)*
 - *Algorithm of automation (with FNAL and DESY)*

STF long-term Plan

H. Hayano 04112007



STF phase 1 will start from 2008. STF phase 2 will start from end of 2010.

