

# **S1G Experiment Schedule Plan; 03232010**

S1G Webex meeting

03232010 H. Hayano

# Assembly work after cavity arrival

## Module C (INFN module)

- ( 1 ) check the listed component
- ( 2 ) review the assembly procedure with arrived components
- ( 3 ) cavities connection in clean-room, leak check
- ( 4 ) He pipe welding at outside clean-room, leak check
- ( 5 ) Tuner and mag. shield assembly at outside clean-room
- ( 6 ) Cavities installation into cold-mass
- ( 7 ) Temp. sensor, RF cables
- ( 8 ) thermal anchor, super-insulator, installation into vacuum vessel
- ( 9 ) Installation into STF tunnel

8 weeks

2010.01~2010.02

## Module A (KEK module)

Start immediately after clean-room available

same procedure as phase1 cavities

9 weeks

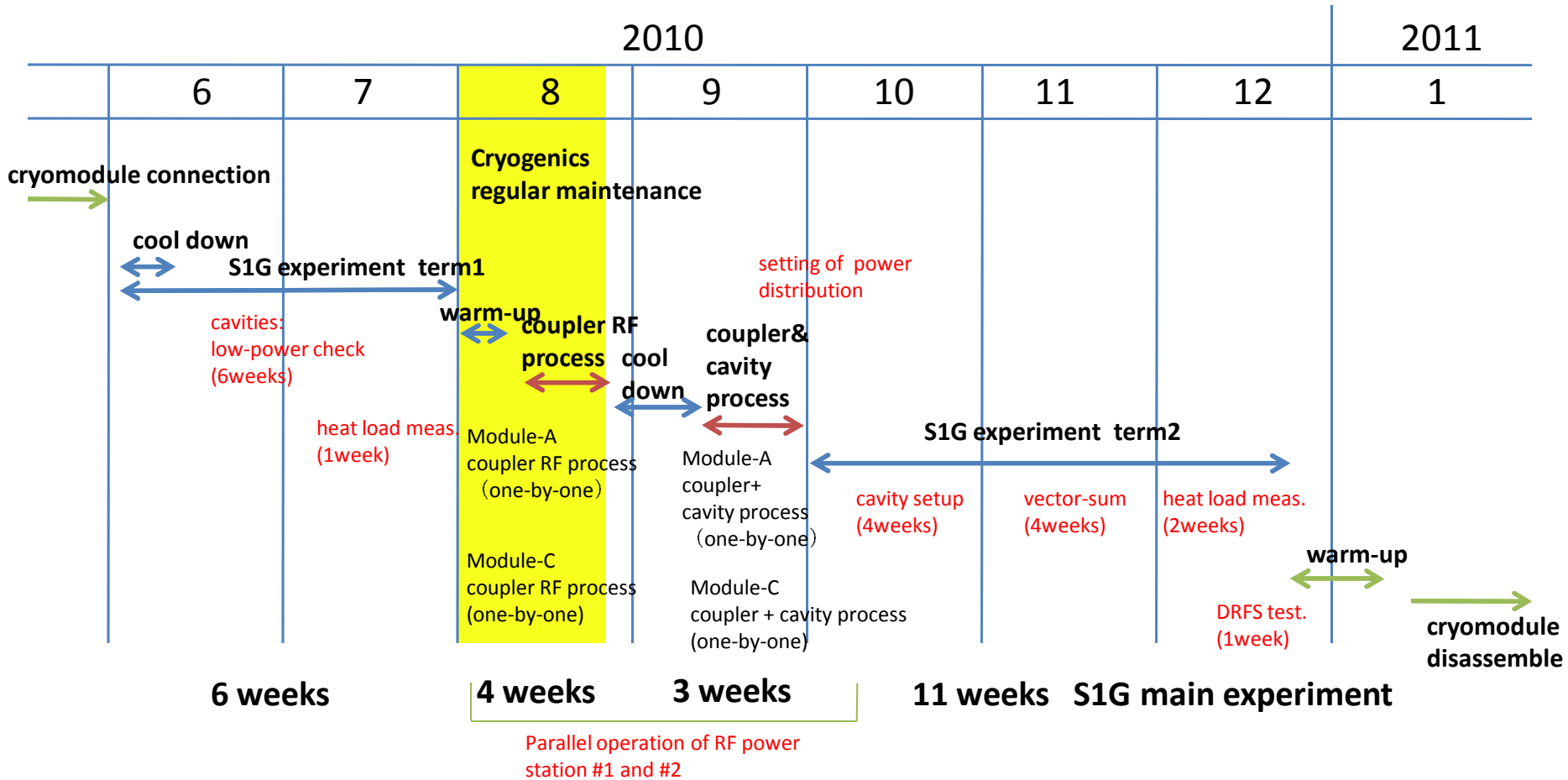
2010.03~2010.04

Connection work of Module C (INFN module) and Module A (KEK module)  
in STF tunnel

4 weeks

2010.05

# S1G overall schedule



IPAC2010  
May23-28, Kyoto

ICHEP2010  
July21-28, Paris

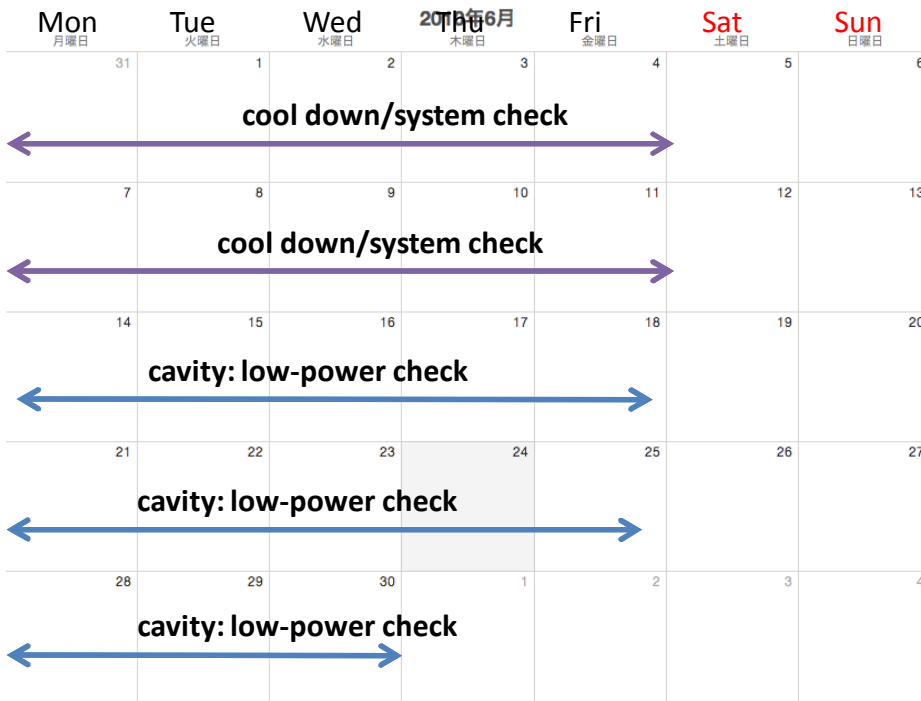
LINAC2010  
Sep12-17, Tsukuba

Domestic Accelerator Meeting  
Aug 2010

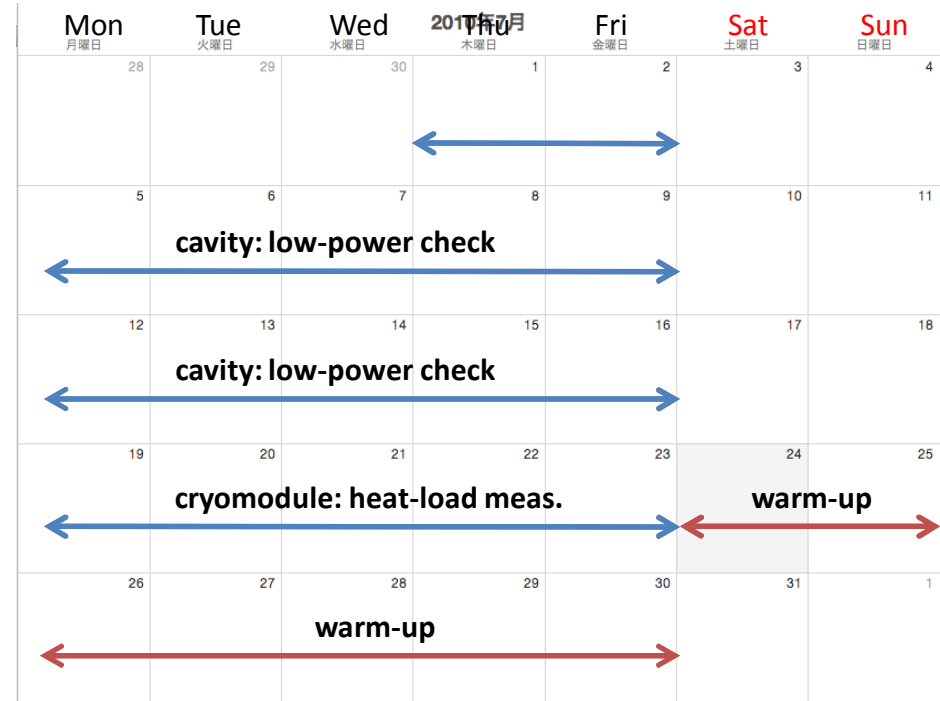
Only LN2 will be Continuous full day operation.  
LHe operation will be daytime only.  
Monday : 2K cool-down,  
Tuesday – Friday : 12:00 – 19:00  
7hours for S1G experiment at 2K.

# S1G schedule 1

June 2010

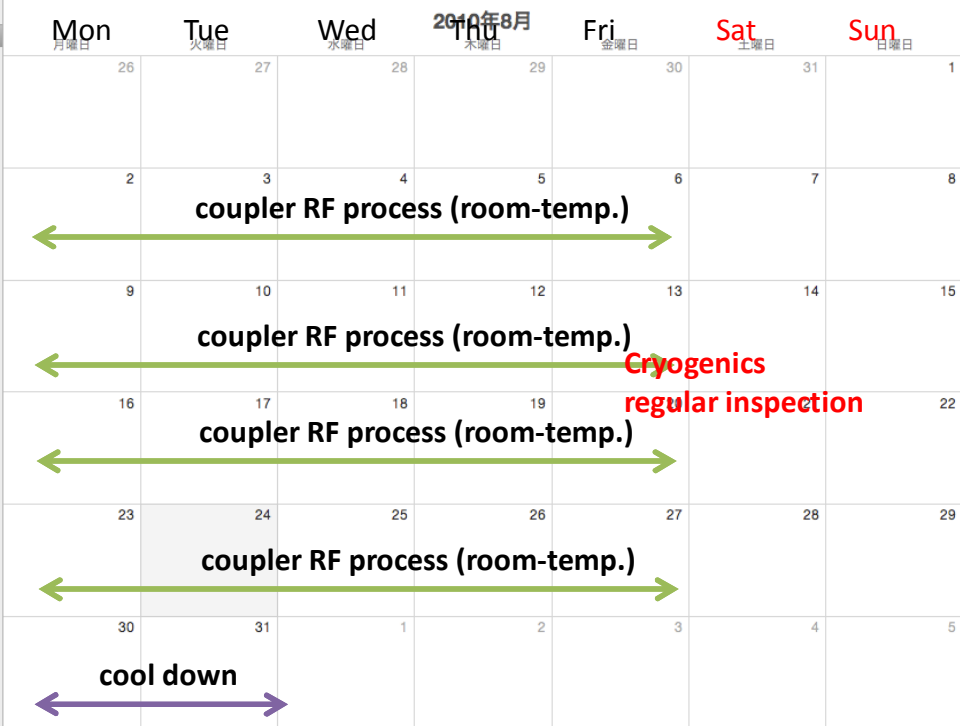


July 2010

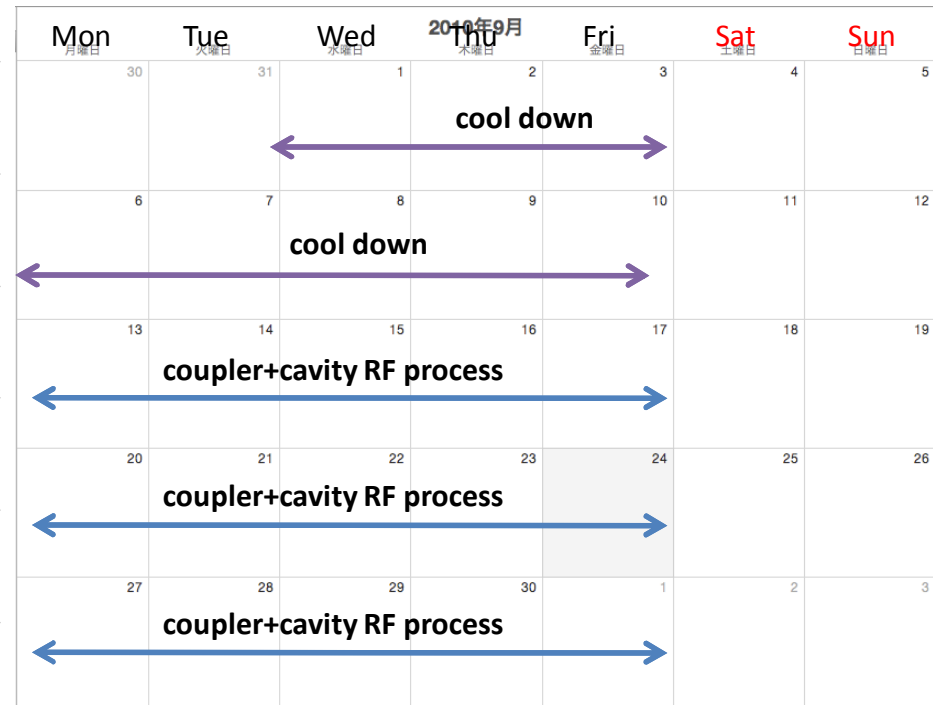


# S1G schedule 2

Aug. 2010

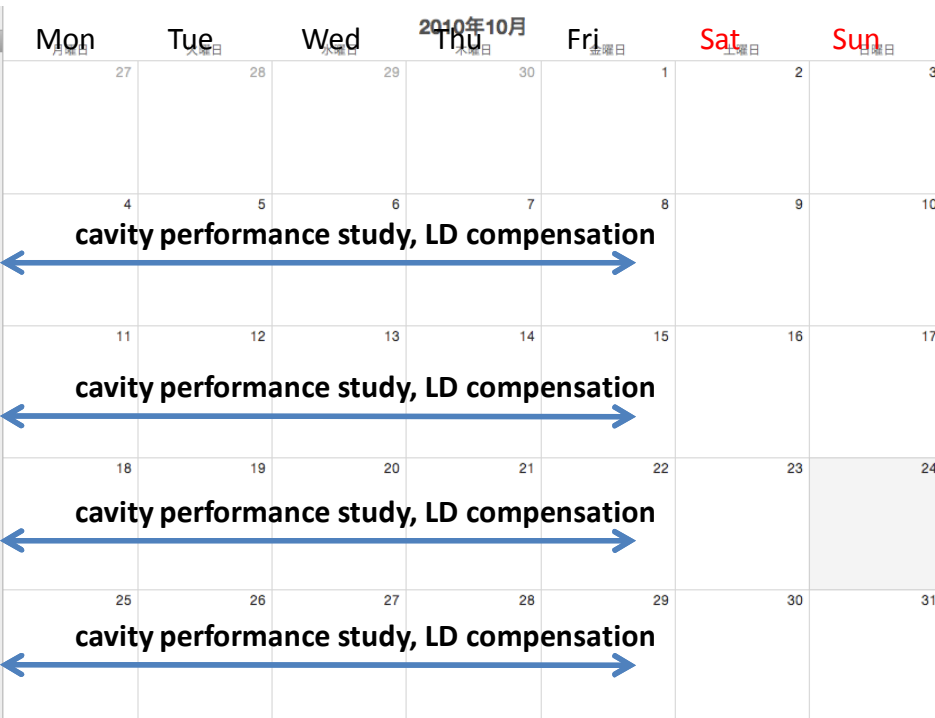


Sep. 2010

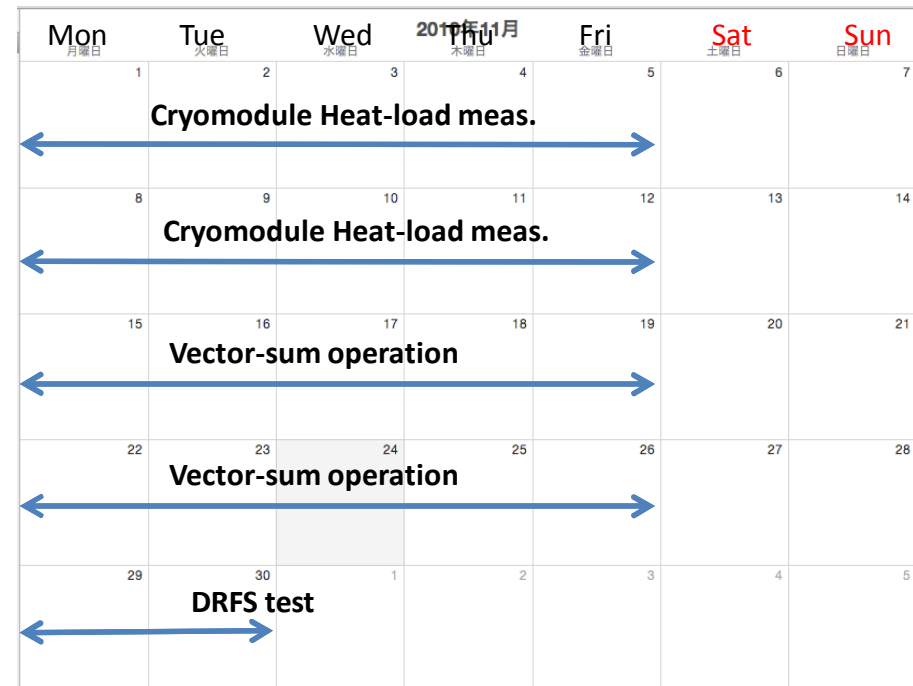


# S1G schedule 3

Oct. 2010



Nov. 2010



# S1G schedule 4

Dec. 2010

Mon 月曜日	Tue 火曜日	Wed 水曜日	2010年12月 Thu 木曜日	Fri 金曜日	Sat 土曜日	Sun 日曜日	
29	30	1 DRFS test	2	3	4	5	
		← DRFS test →					
6	7	8 DRFS test	9	10	11	12	
		← DRFS test →					
13	14	15 DRFS test	16	17	18 warm-up	19	
		← DRFS test →				← warm-up →	
20	21	22 warm-up	23	24	25	26	
		← warm-up →					
27	28	29	30	31	1	2	

# **S1G experiment term1 : 6 weeks**

before summer shut-down

## **1. : Low power measurement of each 8 cavities. (cavity people)**

measurement and set up of cavity; Q-values, frequency, main coupler coupling  
mechanical tuner response, piezo tuner response, mechanical vibratino mode, HOMs, etc.

5 weeks (2010.06-07)

## **2. : Heat load measurement (static) (N. Ohuchi and H. Nakai)**

1 week (2010.07)



# S1G experiment term **summer shutdown** : 7 weeks

at room temperature

## **1. : Main coupler RF process of one by one. (cavity people)**

- #1 Klystron will be connected to Module-C cavities one-by-one (DESY cavity, FNAL cavity)
- #2 Klystron will be connected to Module-A cavities one-by-one (MHI cavities)

Parallel coupler processing          one + one /week; total 4 weeks.

**4 weeks (2010.07.26-08.27)**

Cryogenic system in maintenance and yearly inspection,  
KEK also has 2 days yearly electronic system maintenance  
( 2 days AC power off laboratory-wide)  
Summer holiday season.

at 2K temperature

## **2. : Main coupler + Cavity RF process of one by one. (cavity people)**

- #1 Klystron will be connected to Module-C cavities one-by-one (DESY cavity, FNAL cavity)
- #2 Klystron will be connected to Module-A cavities one-by-one (MHI cavities)

Parallel coupler+cavity RF processing          one + one /week; total 4 weeks.

**3 weeks (2010.09.13-10.01)**

# S1G experiment term2 : 11 weeks

(0) Optimization of Waveguide distribution (power distribution ratio) (HLRF group)

(1) Set-up of FF-table, preparation of vector-sum circuit (LLRF group)

## 1. : **cavity performance study, set-up of LD compensation for each cavity**

gradient check, LD measurement and compensation

**4 weeks (2010.10)**

# Proposal from Michizono-san; 03\_04\_2010

## 2. : **Cryomodule Heat-load meas.**

Static and dynamic heat-load

2 weeks (2010.11)

(0) Optimization of Waveguide distribution (power distribution ratio) (HLRF group)

(1) Set-up of FF-table, preparation and setup of vector-sum circuit (LLRF group)

## 3. : **Vector-sum operation**

8 cavities Vector Sum set-ups: 5 days

Vector sum control 8 cavities : 2 days

Vector sum control IF-mix: 1 day

Adoptive FF: 1 day

RF power fluctuation: 1 day

2 weeks (2010.11)

Connect 1 small klystron to two cavities in tunnel, LLRF also in tunnel. : 3 days

## 4. : **DRFS study**

DRFS study

cavity performance: 1 day

adaptive FF: 2 days

RF power fluctuation: 2 days

sag compensation: 2 days

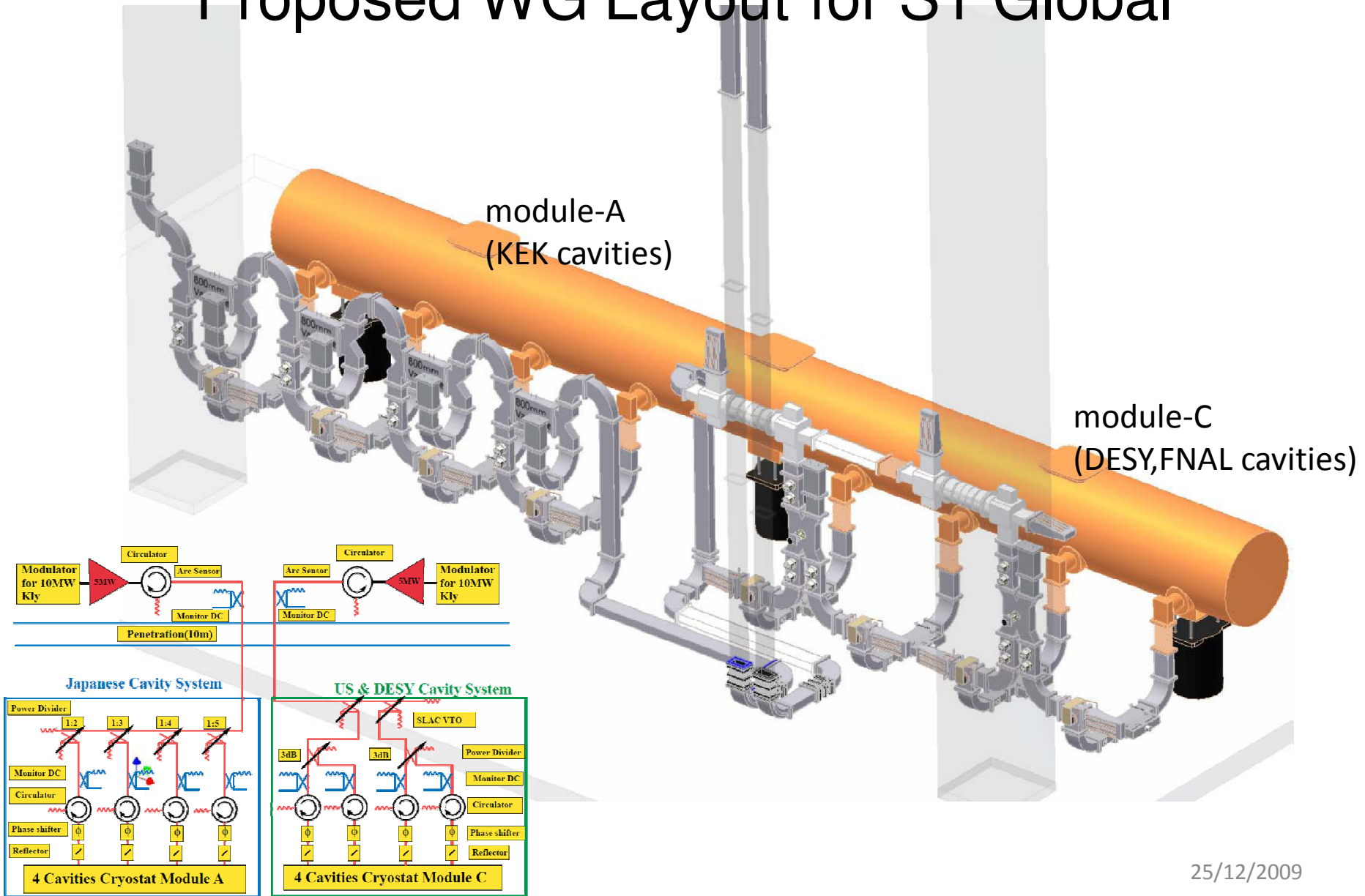
feedback algorithm: 1 day

loaded Q monitor: 1 day

fast interlock performance: 1 day

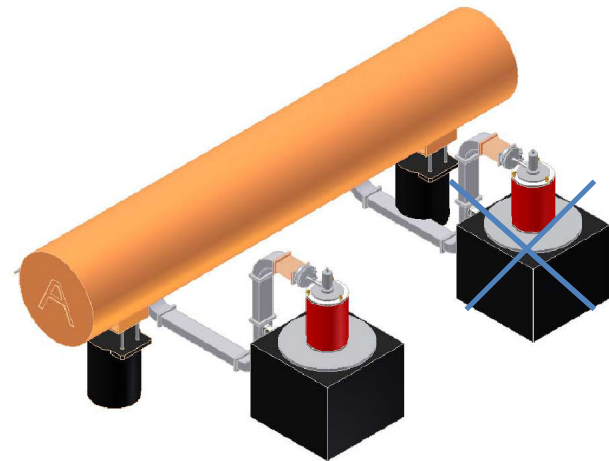
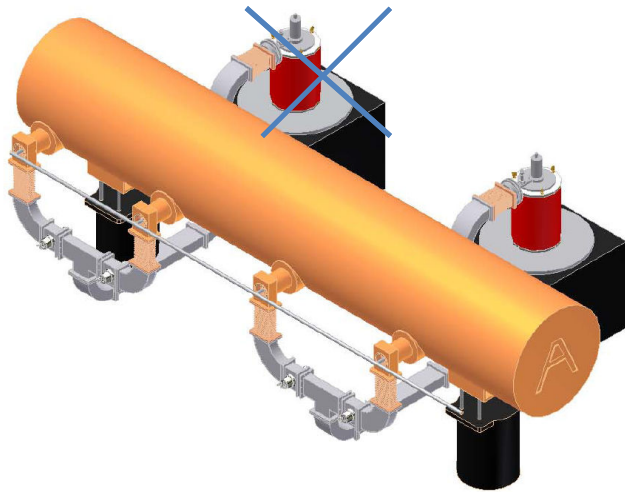
total 3 weeks (2010.12)

# Proposed WG Layout for S1 Global

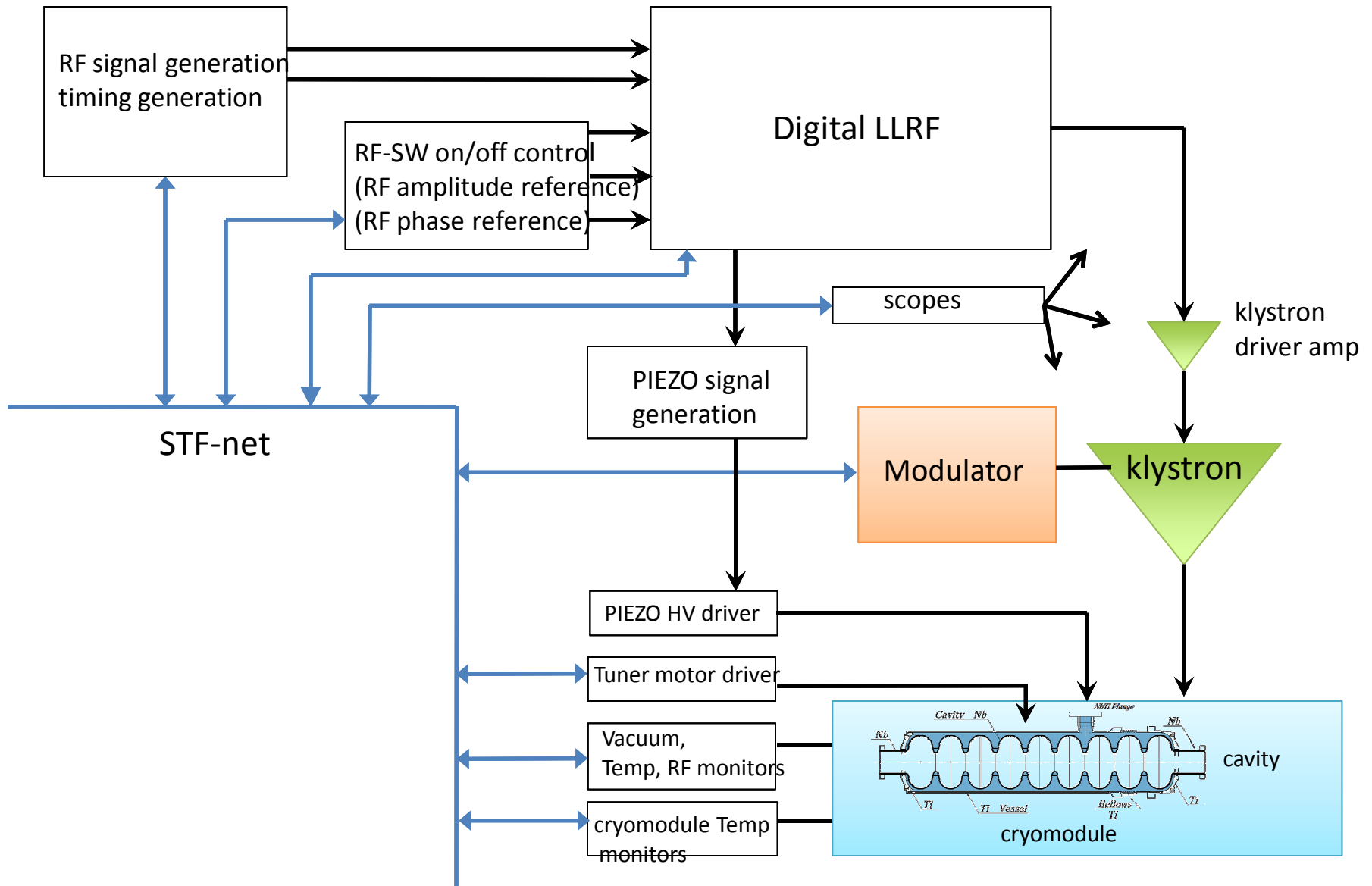


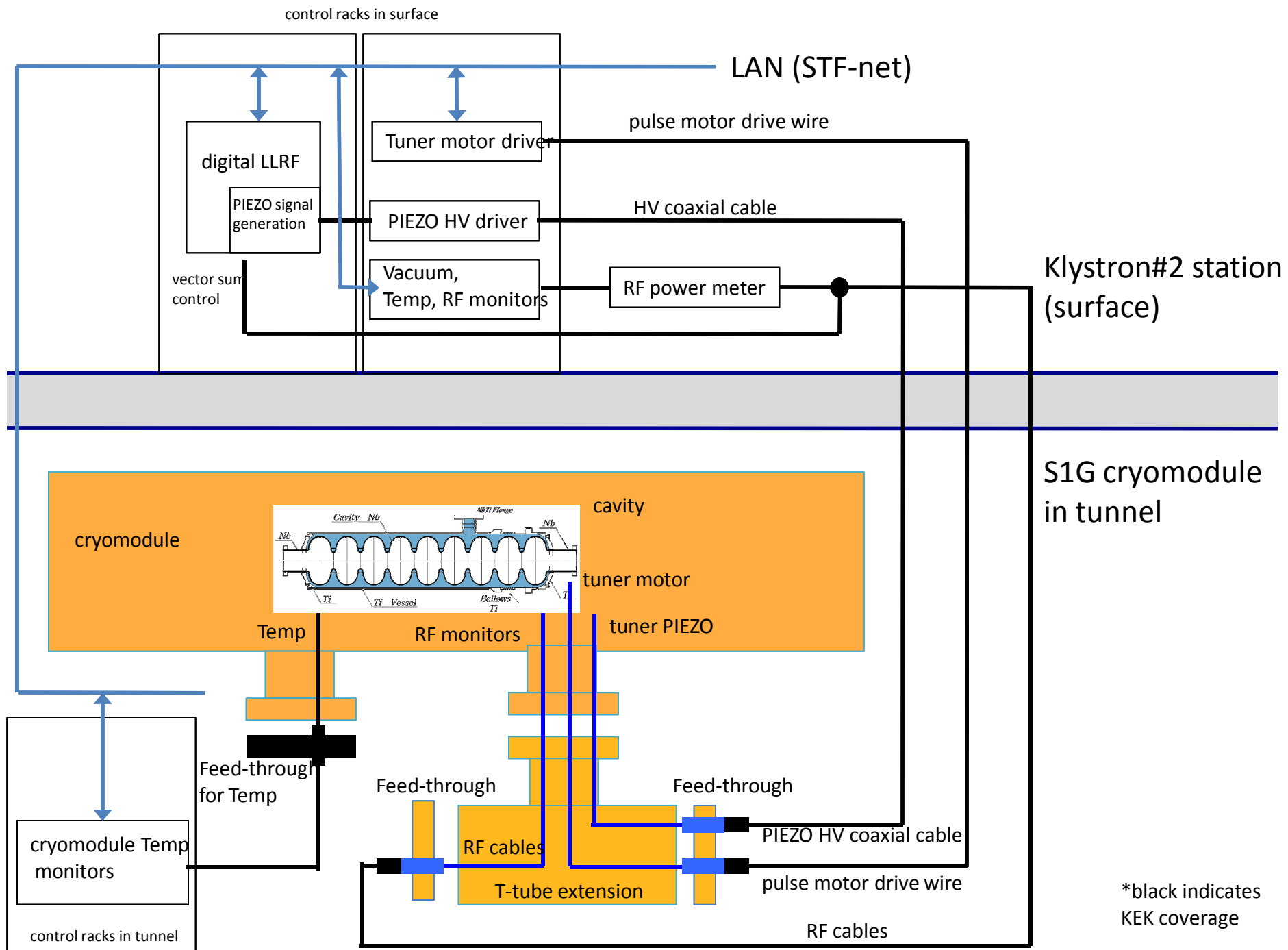
# DRFS Demonstration

DRFS Demonstration test is approved for 1 week period. 1 unit of DRFS is Planned to be manufactured in FY2009.



# overall control configuration of S1Global module





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