

Cryomodule Tests in S1-Global

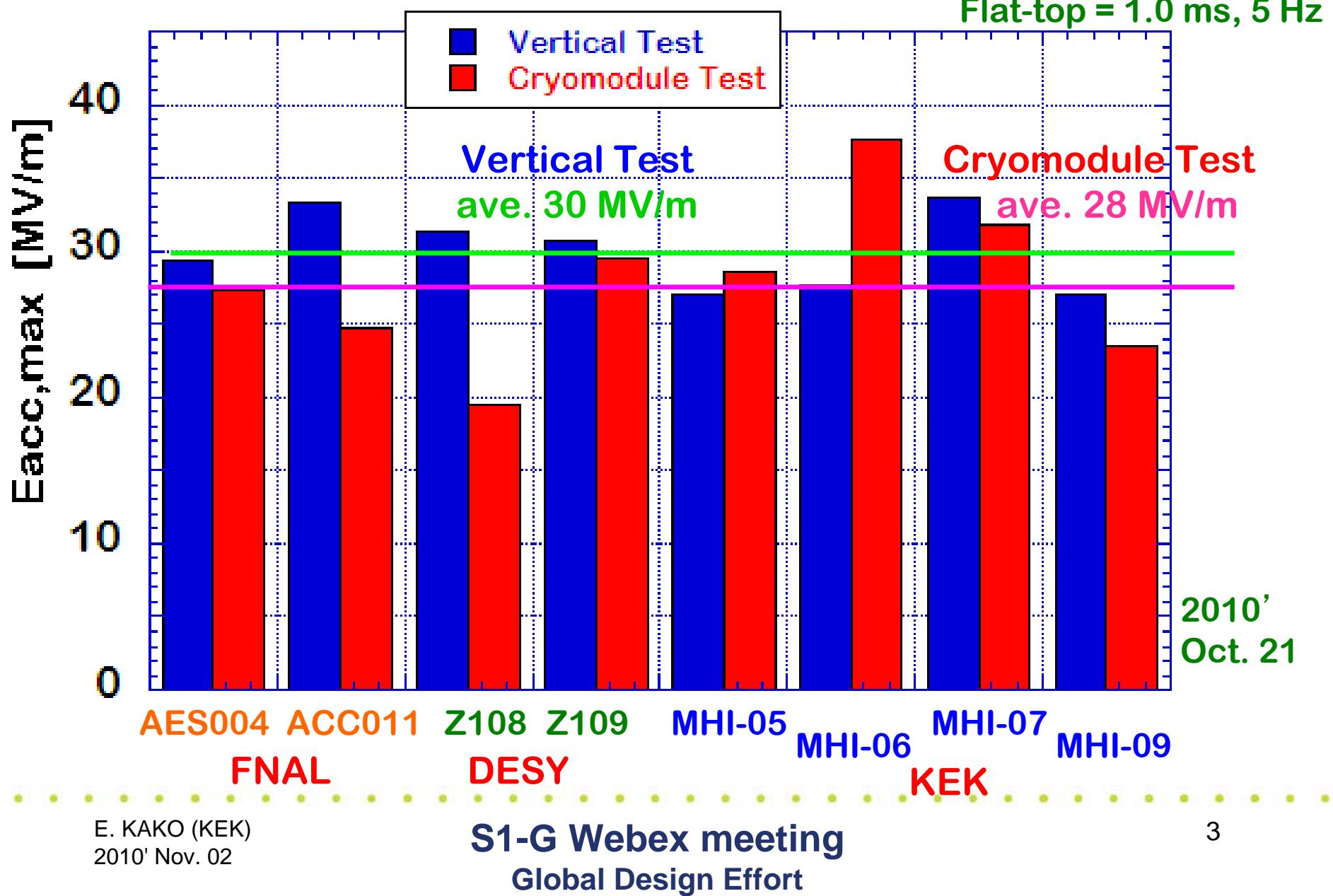


International Collaboration
DESY-FNAL-INFN-SLAC-KEK

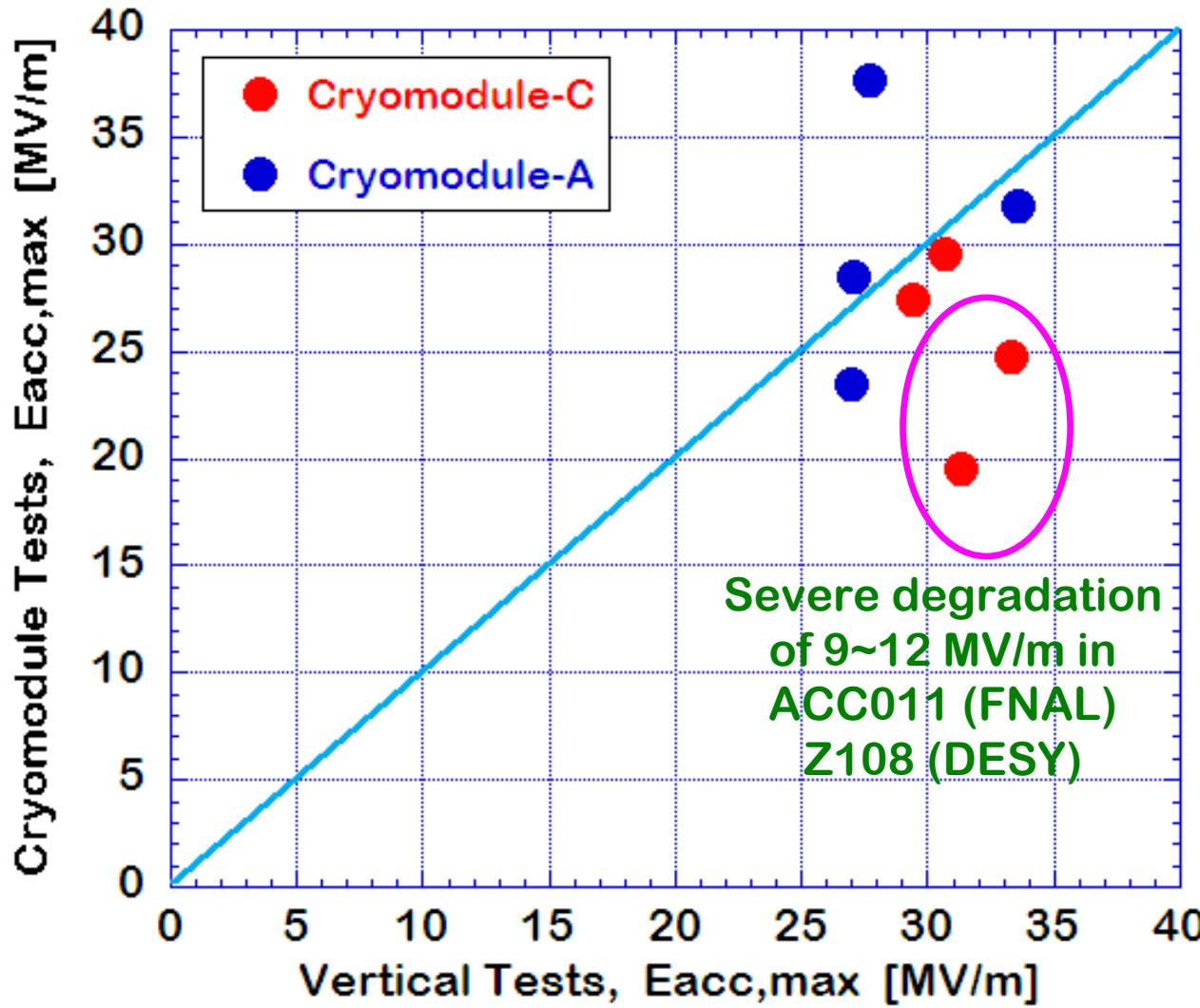
Outline

- High field performance of 8 cavities
- Lorenz detuning at flat-top
- Schedule in Nov. and Dec., 2010
 1. LFD compensation by KEK hardware
 2. Dynamic heat load measurements
 - in each cavity, 4 cavities, 8 cavities
 3. LLRF control exp. in 8 cavities
- Schedule in Jan. and Feb., 2011
 4. DRFS (distributed RF system) exp.

Comparison of VT and CT



Comparison of VT and CT

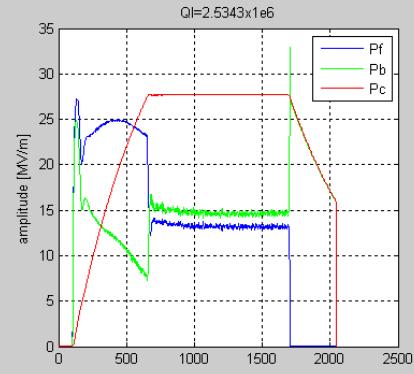
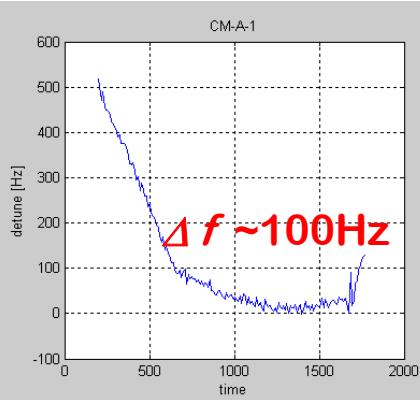


ave. Eacc,max
= 25.3 MV/m
(Cryomodule-C)

ave. Eacc,max
= 30.4 MV/m
(Cryomodule-A)

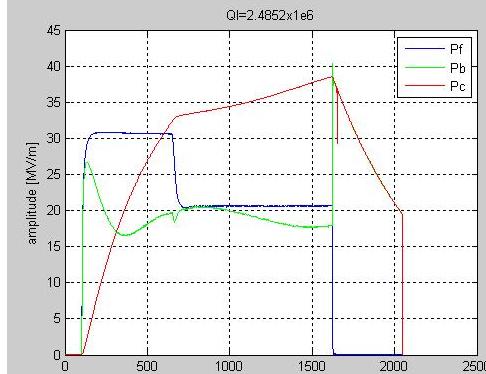
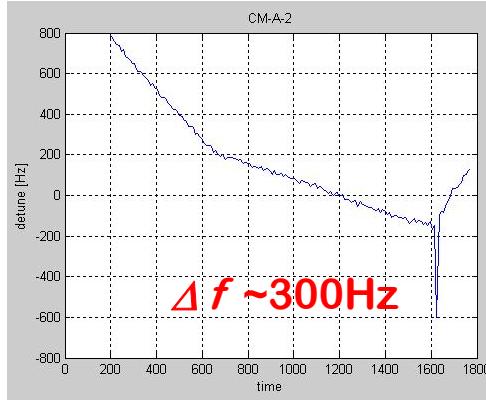
Lorentz detuning experiments

A1/MHI-05
28 MV/m



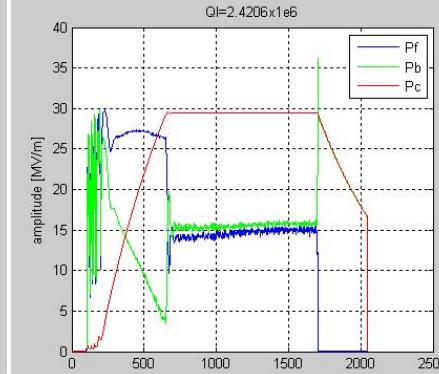
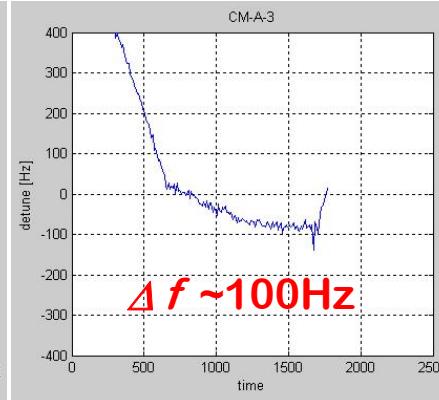
FB/on, Piezo/off

A2/MHI-06
35 MV/m



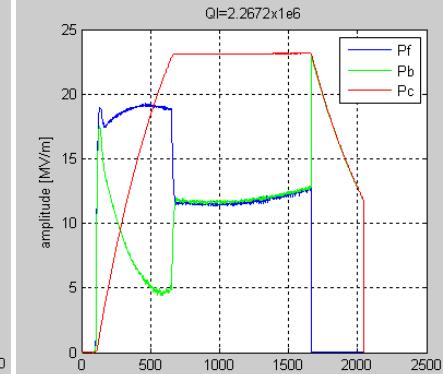
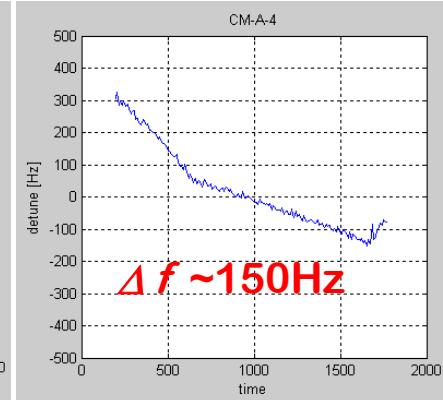
FB/off, Piezo/off

A3/MHI-07
30 MV/m



FB/on, Piezo/off

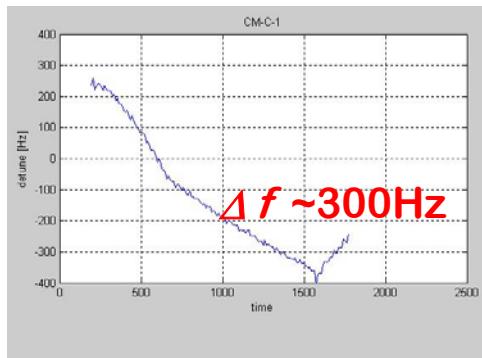
A4/MHI-09
23 MV/m



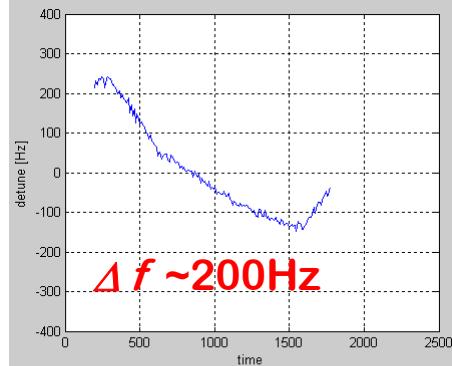
FB/on, Piezo/off

Lorentz detuning experiments

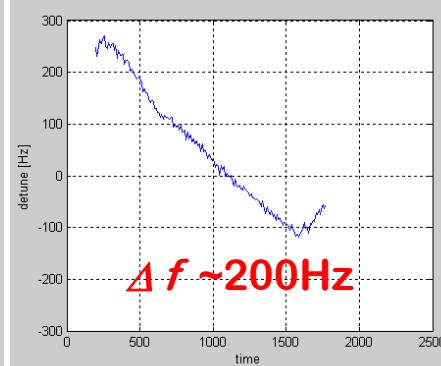
C1/AES004
26 MV/m



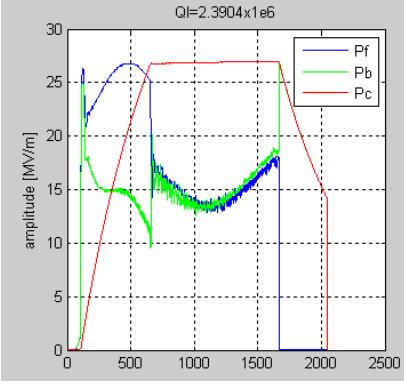
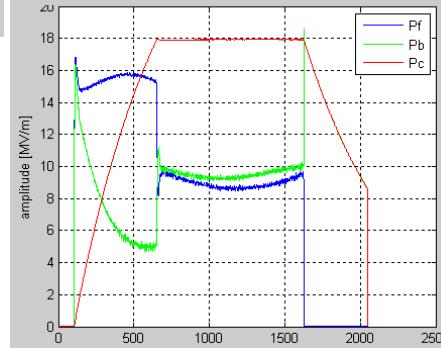
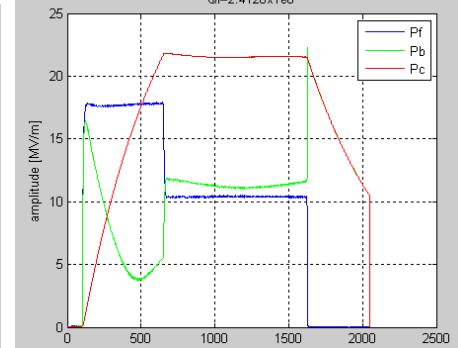
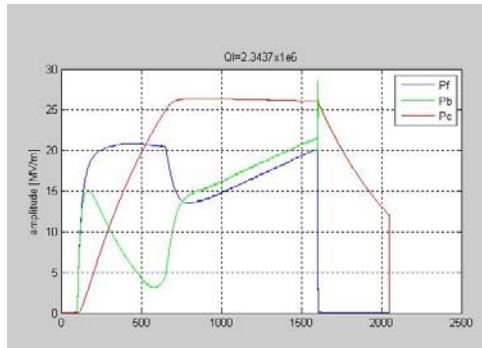
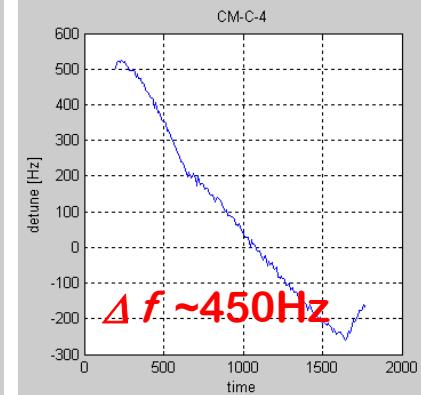
C2/ACC011
22 MV/m



C3/Z108
18 MV/m



C4/Z109
27 MV/m



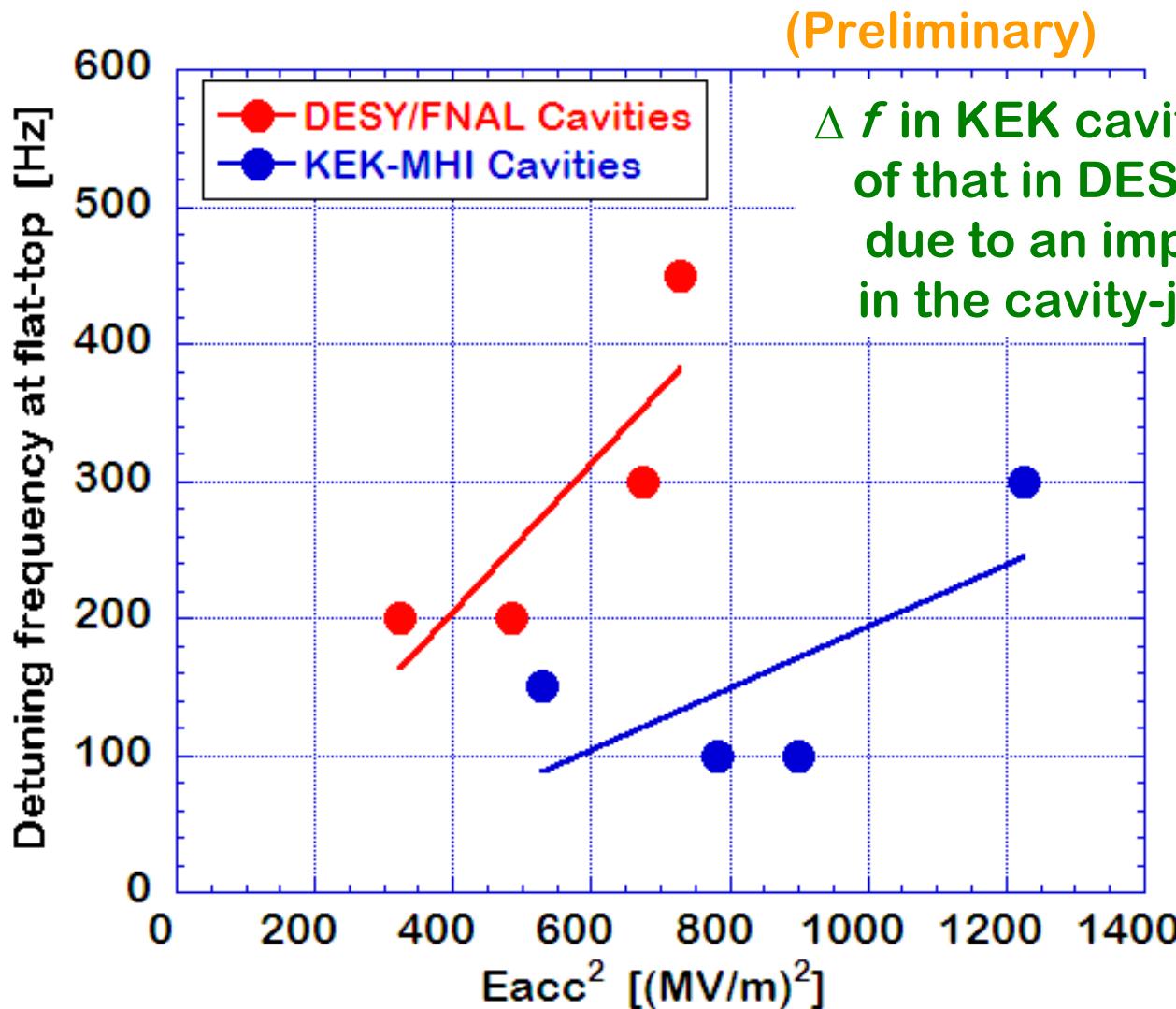
FB/on, Piezo/off

FB/off, Piezo/off

FB/on, Piezo/off

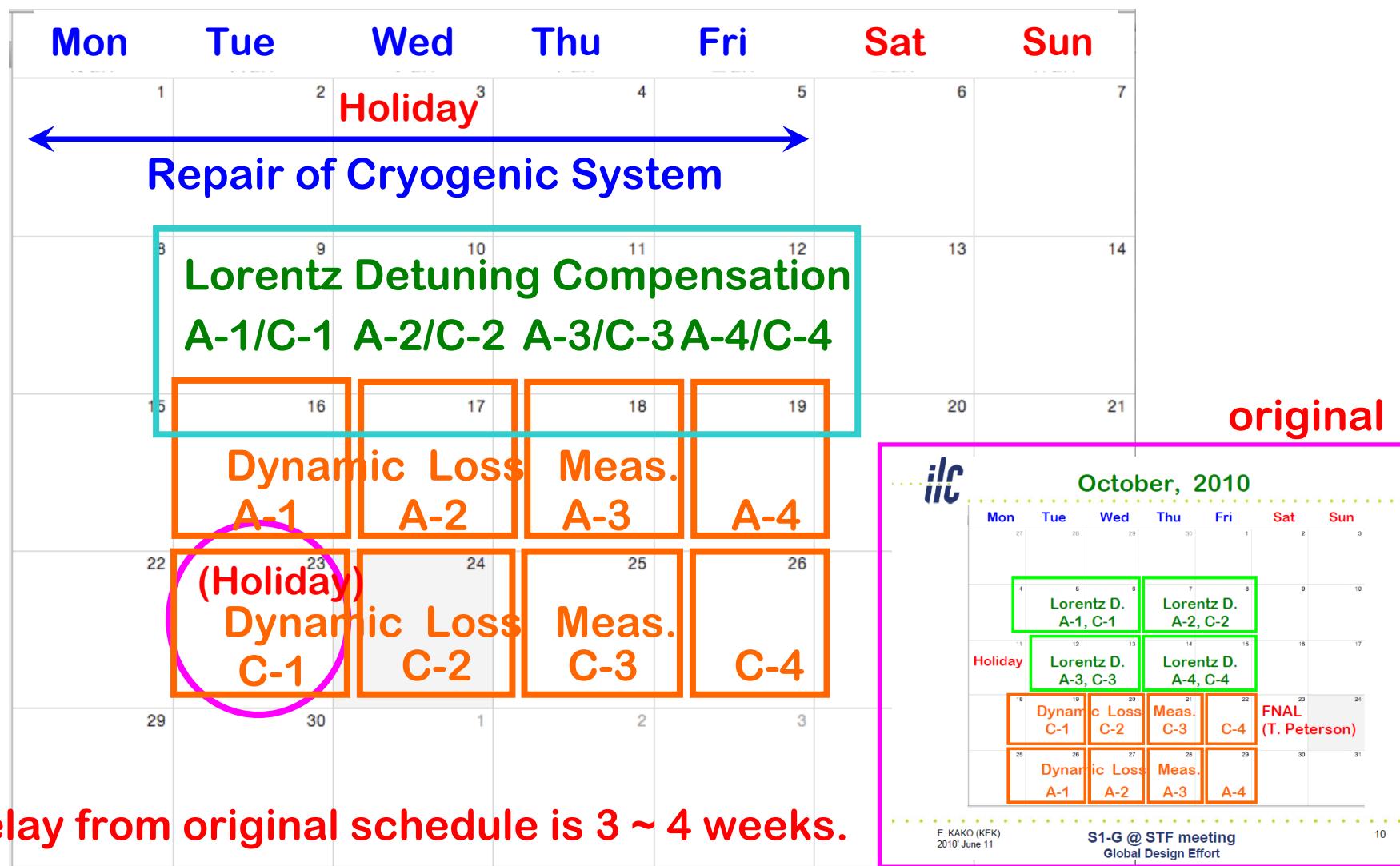
FB/on, Piezo/off

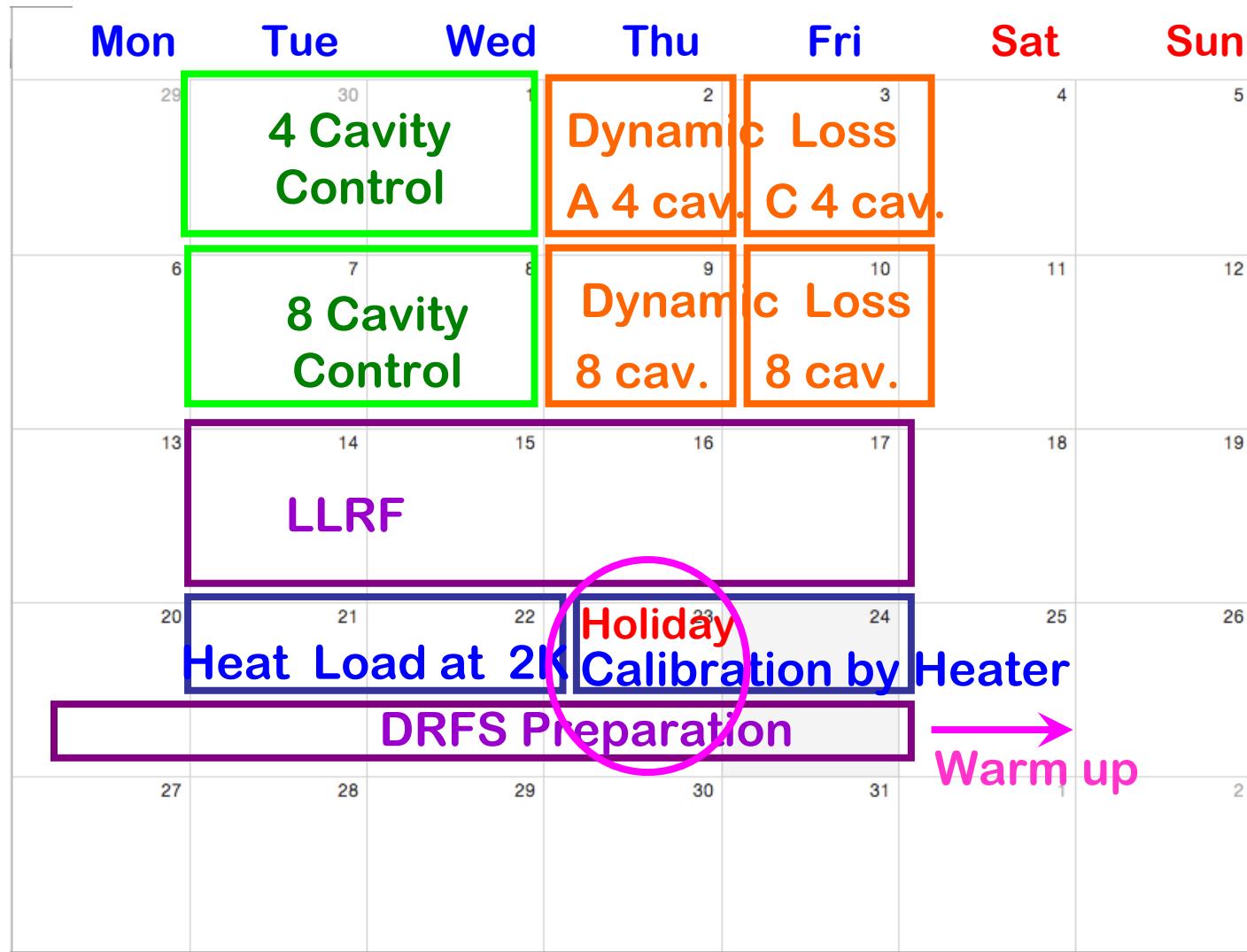
Lorentz force detuning at flat-top

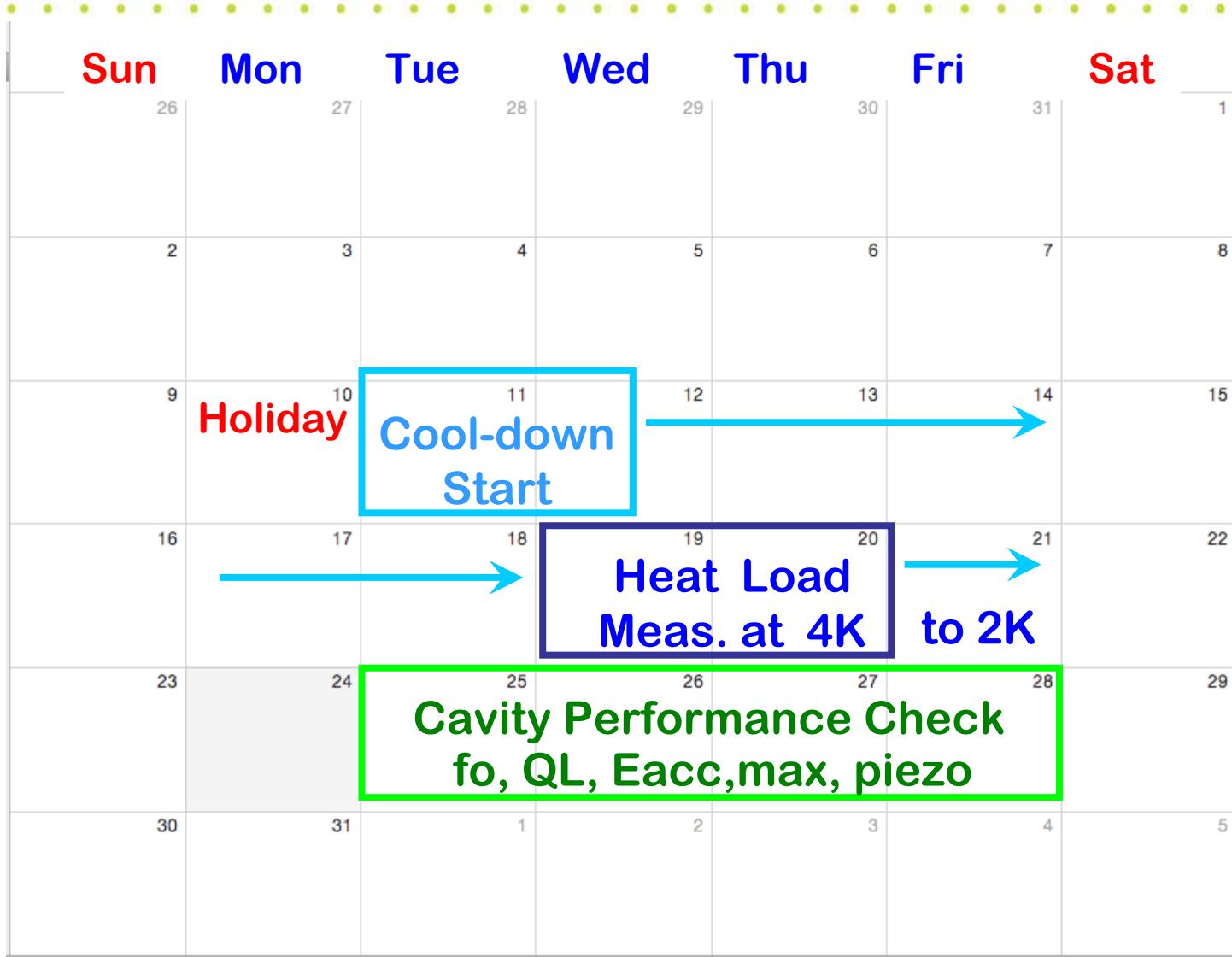


Δf in KEK cavities is approx. 1/3 of that in DESY/FNAL cavities due to an improved stiffness in the cavity-jacket structure.

November, 2010







February, 2011

(under discussion)

