



# KEK Status Report



# STF/CFF Status

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- **STF-2 Cryomodule (CM-1; 8 cavities & Q-magnet, CM-2a; 4 cavities)**
    - First cool-down, and low power measurement at 2K done last autumn
    - One Piezo broken with short circuit (will be exchanged in near future)
    - High power test will start from this autumn
  - **9-cell Cavity**
    - MHI-D fabricated / tested twice, but not so good results
    - MHI-27~-30 fabricated / tested, but not achieved above 35 MV/m
      - They will/may be used for cavity exchange after high power test in STF-2
    - KEK-2 (In-house, L.G.) fabrication started
  - **Others**
    - Magnetic shield study is still on going in vertical cryostat (Tsuchiya-san/Masuzawa-san)
    - V.T. for In-house 1-cell cavities done many times (Umemori-san/Shimizu-san)
      - V.T. for N<sub>2</sub> doped cavity done last week
    - CP for SRF GUN (1.5-cell) cavity done (Umemori-san/Konomi-san)
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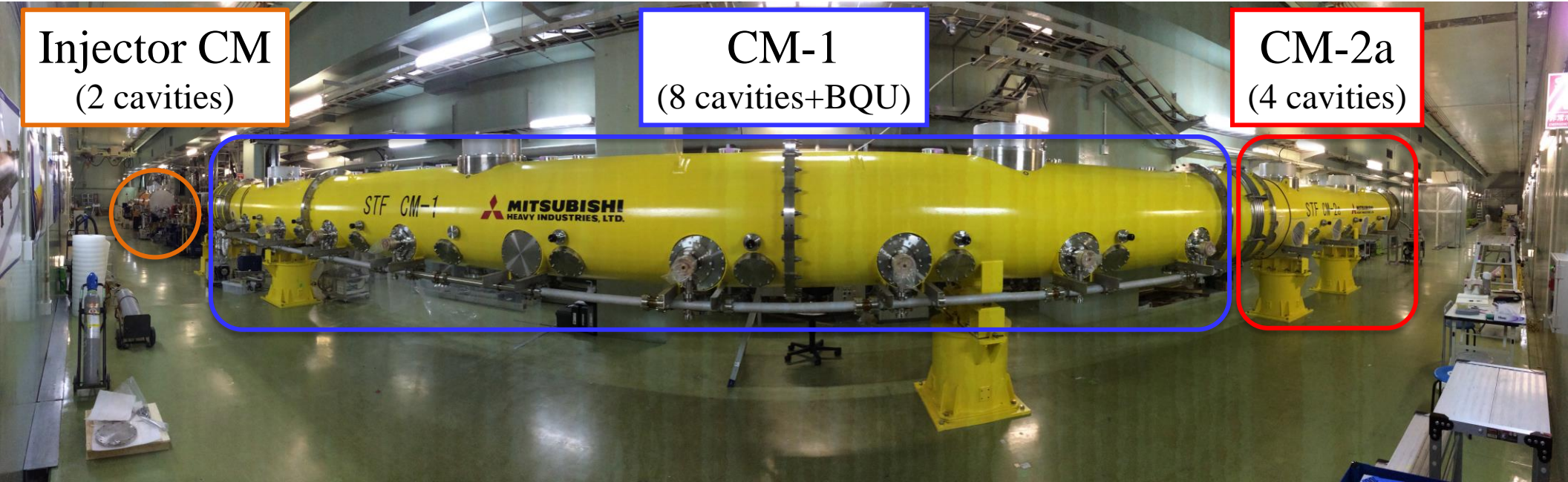


# CM-1+CM-2a in STF-2

Injector CM  
(2 cavities)

CM-1  
(8 cavities+BQU)

CM-2a  
(4 cavities)

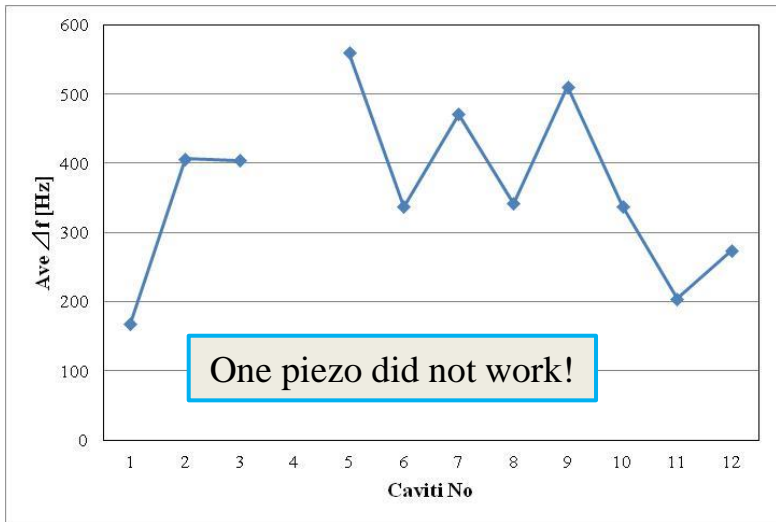
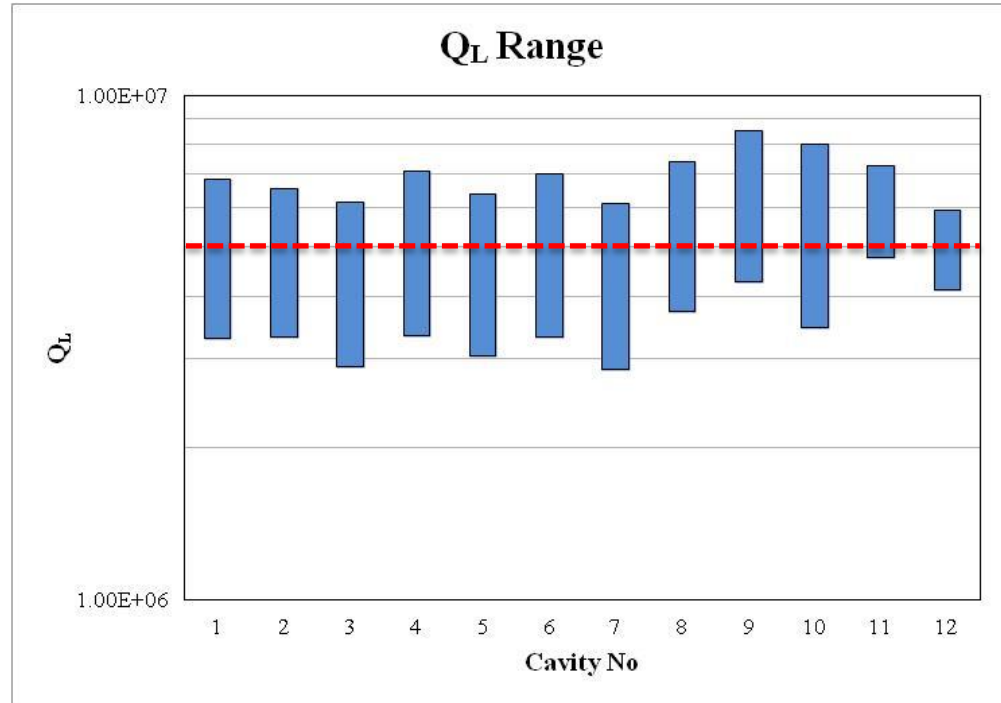
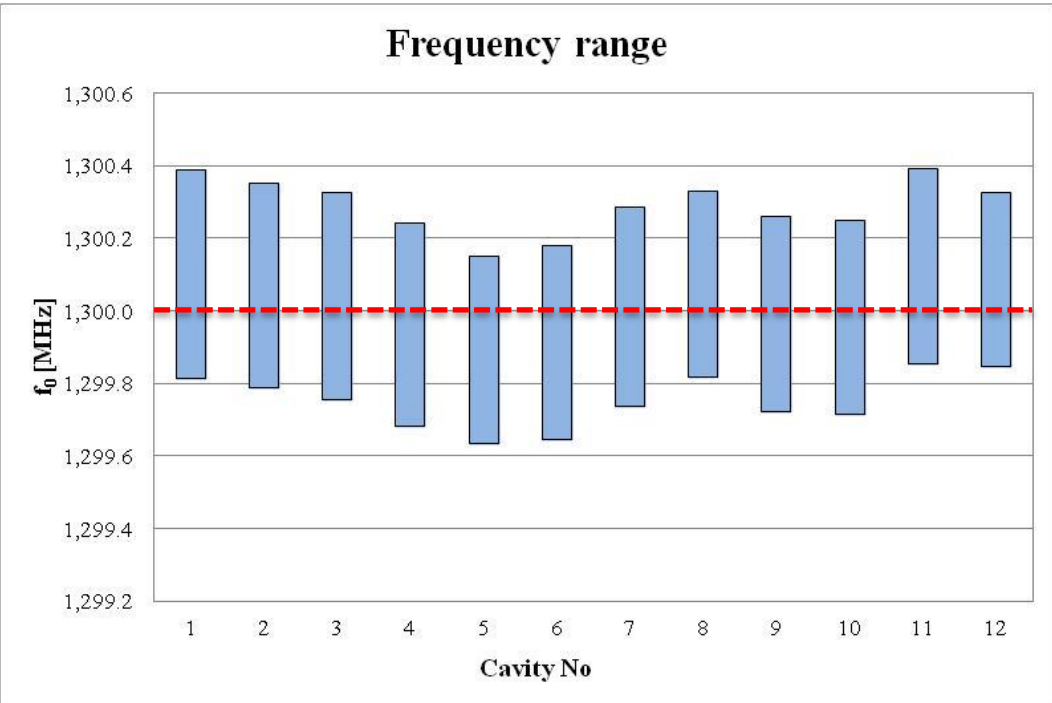


- First cool-down for CM-1/CM-2a done
- Low power test with Network Analyzer done
- Motor drive test for variable input coupler done
  
- W.G. system will be installed into tunnel around summer
- Coupler conditioning at R.T. will start after that
- Second cool-down / high power test will start from this autumn



Target frequency : 1.3 GHz

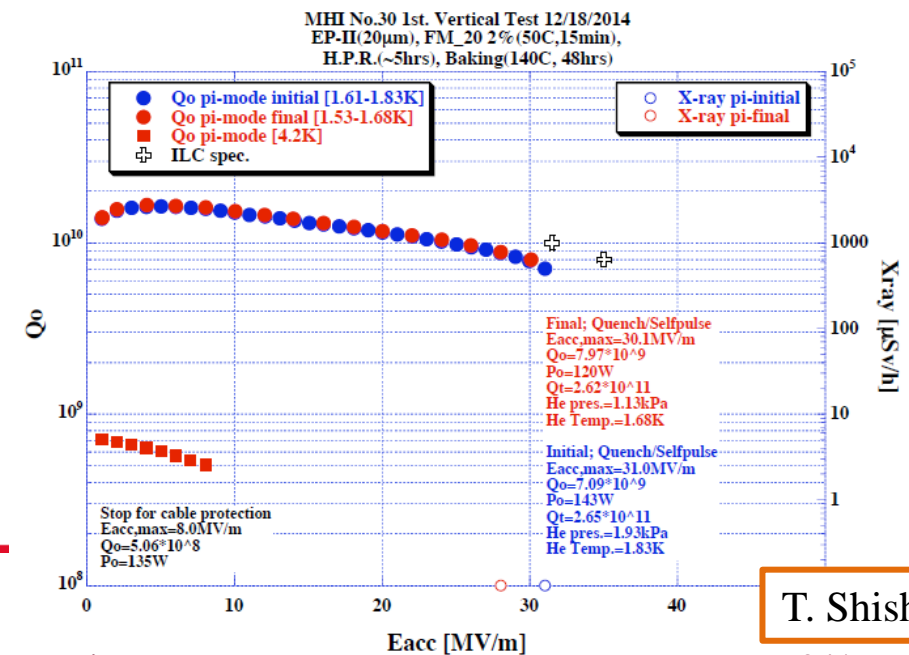
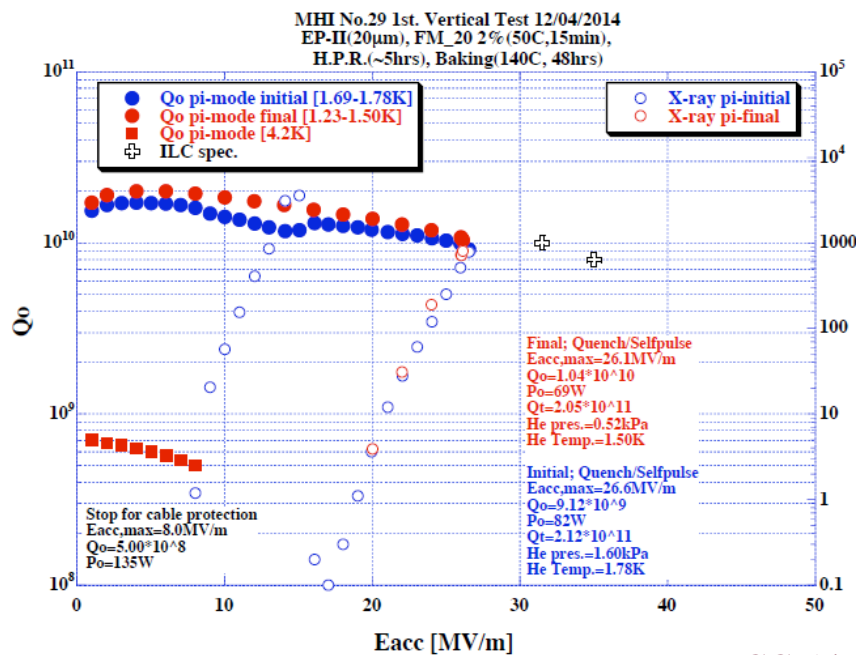
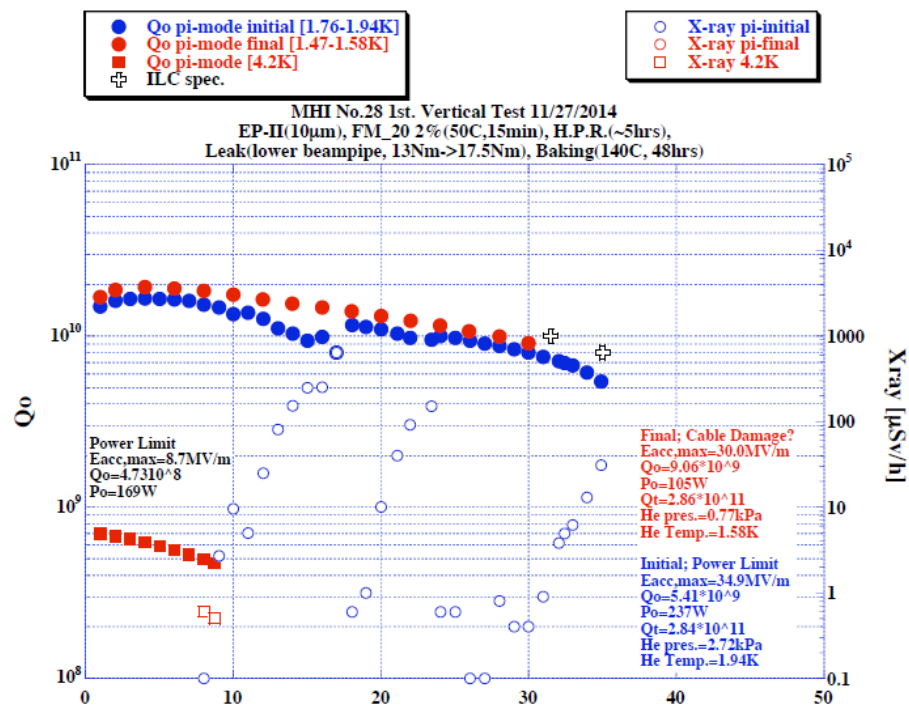
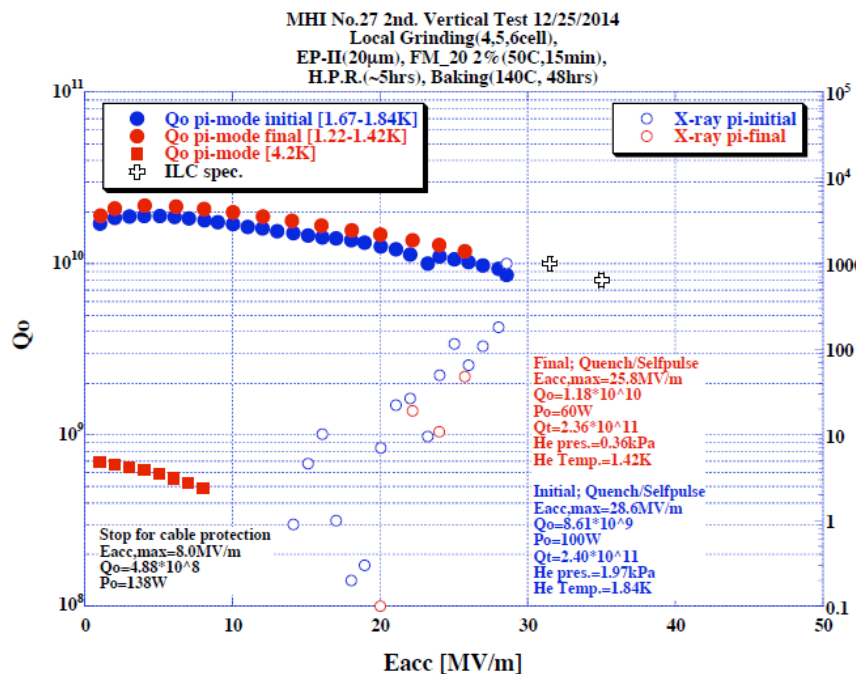
Target  $Q_L$  :  $5.0 \times 10^6$



$I_{\text{beam}} = 6\text{mA} \rightarrow Q_L = 6 \times 10^6$   
 $I_{\text{beam}} = 9\text{mA} \rightarrow Q_L = 4 \times 10^6$



# V.T. result for MHI-27~-30



T. Shishido



Cavity name	Cavity type	Comment / Status
KEK-0	9-cell	Prototype, w/o HOM couplers, V.T. finished
KEK-1	9-cell	3 <sup>rd</sup> V.T. will be done
KEK-2	9-cell (L.G.)	Fabrication started, under discussion on end group
KEK-R1	1-cell (L.G.)	V.T.s were done twice
KEK-R2	1-cell	V.T.s were done twice, after that N <sub>2</sub> doped tested
KEK-R3	3-cell	Two dumbbells fabricated by improved method
KEK-R4	1-cell	F.G. for cell, L.G. for beam pipe
KEK-R5	1-cell (L.G.)	Low RRR (<200), Trimming for cell
KEK-W1	1-cell (Seamless)	1 <sup>st</sup> V.T. done
KEK-W2	1-cell (Seamless)	Broken in fabrication
KEK-U4	1-cell (Seamless)	Nb pipe produced

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Thank you