

Cavity status; recent KEK activities

There are four vertical tests since the last S0 meeting. However there is no new cavity test. The green figure results are the new test.

(1) STF CM-1 cavities are;

MHI-014	36.6MV/m	for CM-1 ILC cryomodule (3-rd VT)
MHI-015	35.7MV/m	for CM-1 ILC cryomodule (4-th VT)
MHI-016	33.8MV/m	for CM-1 ILC cryomodule (2-nd VT)
MHI-017	38.4MV/m	for CM-1 ILC cryomodule (1-st VT)
MHI-018	36.2MV/m	for CM-1 ILC cryomodule (4-th VT)
MHI-019	37.0MV/m	for CM-1 ILC cryomodule (2-nd VT)
MHI-020	35.1MV/m	for CM-1 ILC cryomodule (3-rd VT)
MHI-021	38.9MV/m	for CM-1 ILC cryomodule (1-st VT)
MHI-022	35.8MV/m	for CM-1 ILC cryomodule (2-nd VT)

They all were jacketed with HPV qualification and waiting for the CM-1 installation.

The next 4 cavities for CM-2a are under fabrication.

(2) New bender/KEK cavities/R&D cavities;

TOS-02(w/o HOM): 1-st : 31.2MV/m, 2-nd :32.7MV/m, 3-rd :36MV/m

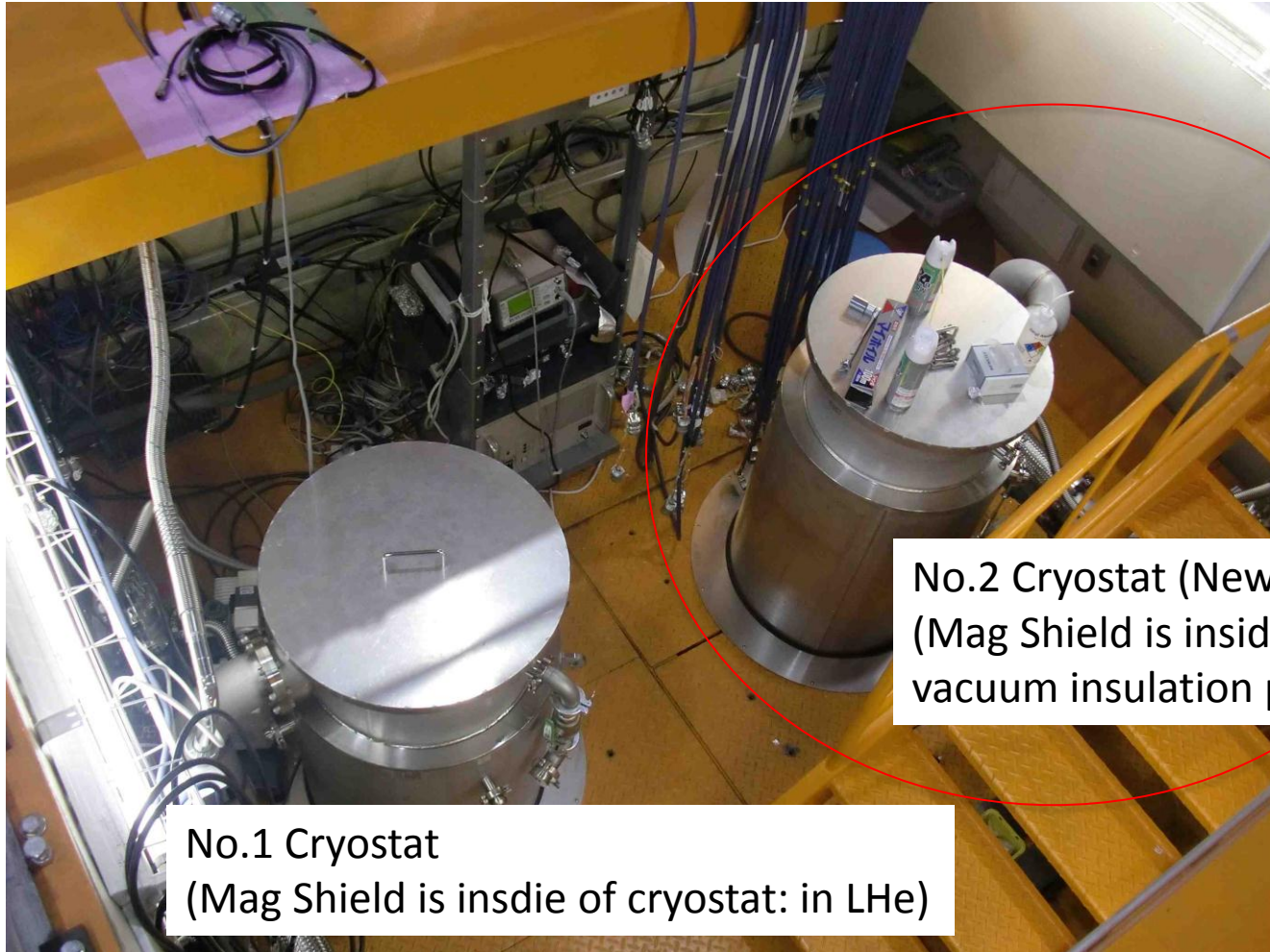
HIT-02(with HOM): 1-st : 35.2MV/m, 2-nd :40.9MV/m, **3-rd : 32.7MV/m, 4-th : 32.3MV/m**
5-th : 38.0MV/m

KEK-00(w/o HOM): 1-st : 26MV/m, 2-nd :29MV/m, 3-rd :24MV/m, **4-th : 22MV/m**

KEK-01(with HOM): under fabrication

MHI-C(with HOM): 1-st : 36.1MV/m

Cryostat of STF-Vertical Test Stand

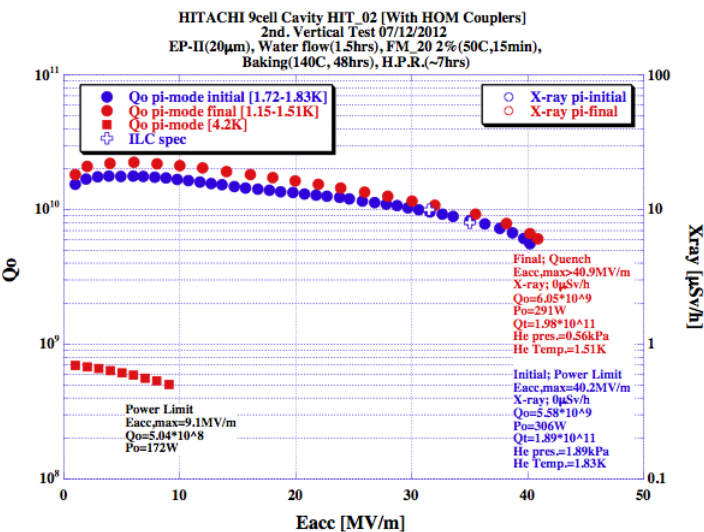


No.1 Cryostat
(Mag Shield is inside of cryostat: in LHe)

No.2 Cryostat (New)
(Mag Shield is inside of
vacuum insulation part)

New VT Cryostat (No.2 Cryostat) commissioning

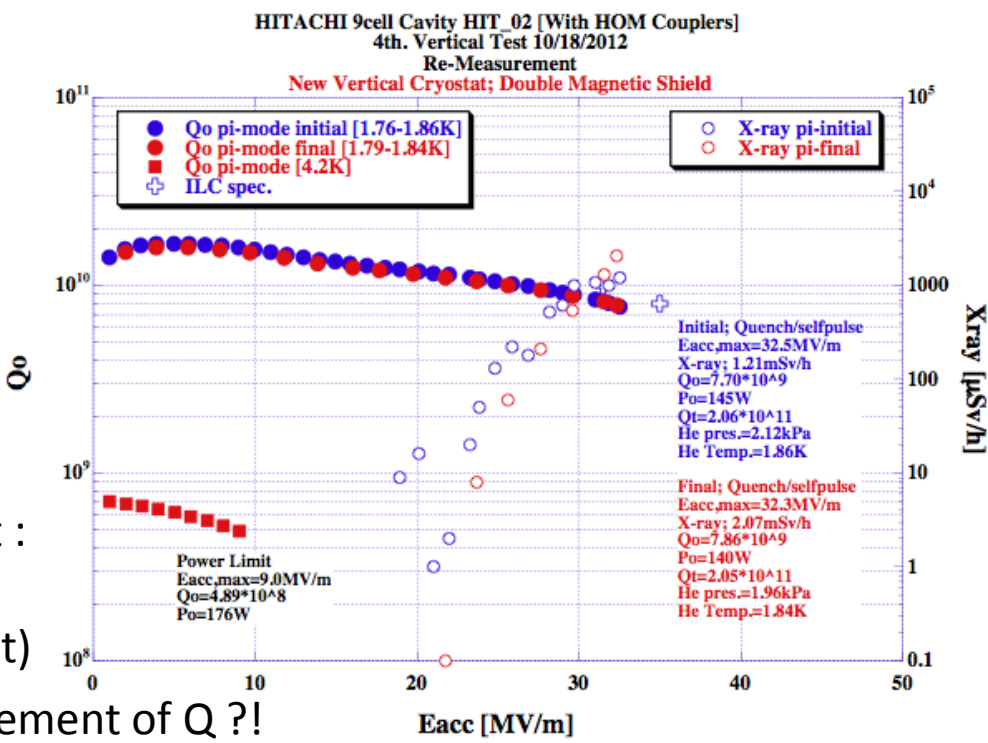
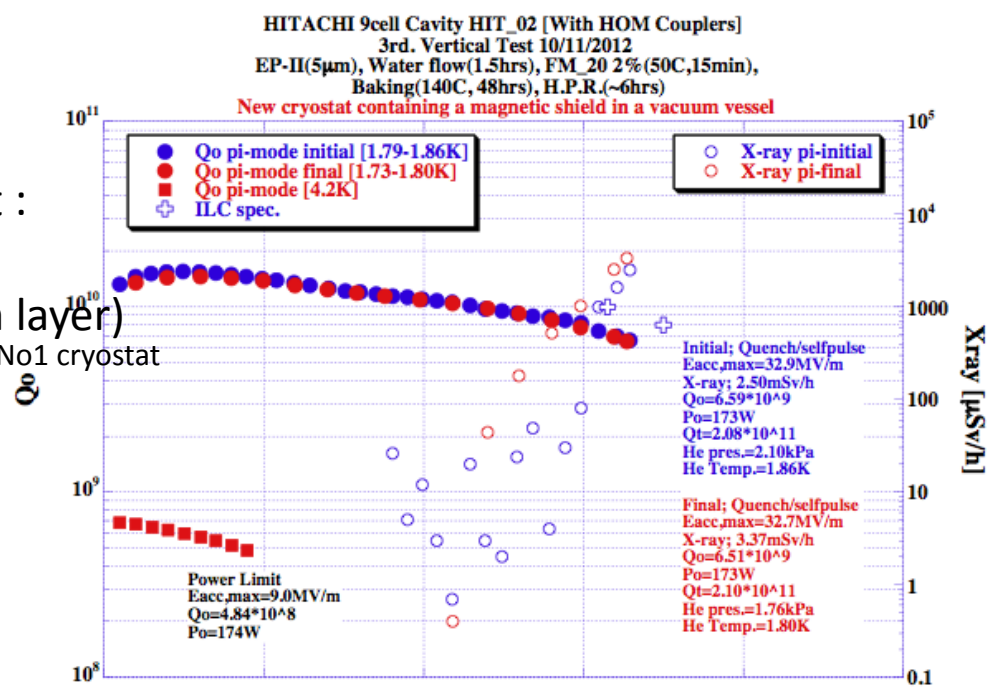
3-rd vertical test :
(mag shield in cryostat vacuum layer)
Q slightly lower than No1 cryostat



2-nd vertical test in the No.1 cryostat:
as a reference

4-th vertical test :
(add mag shield inside of cryostat)

no improvement of Q ?!

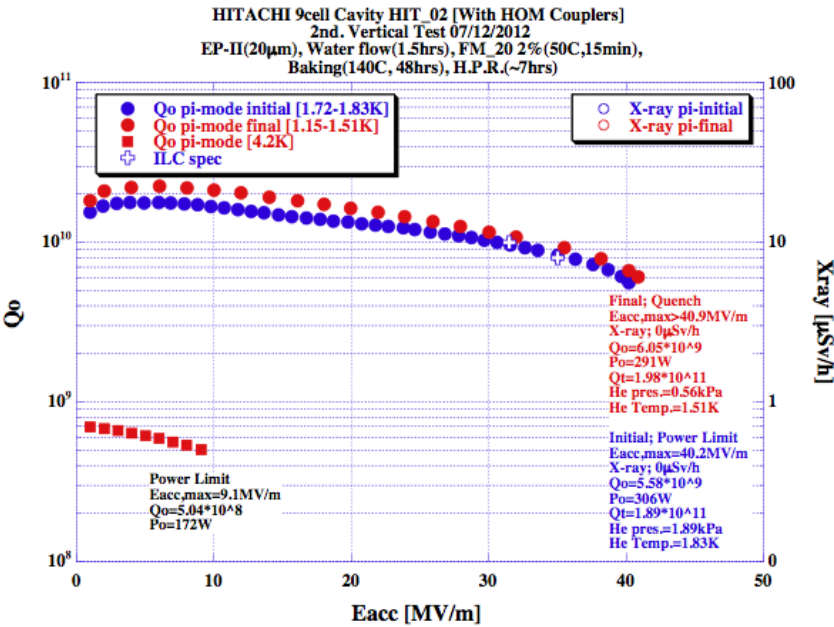


Check ultra-sonic rinsing is effective or not

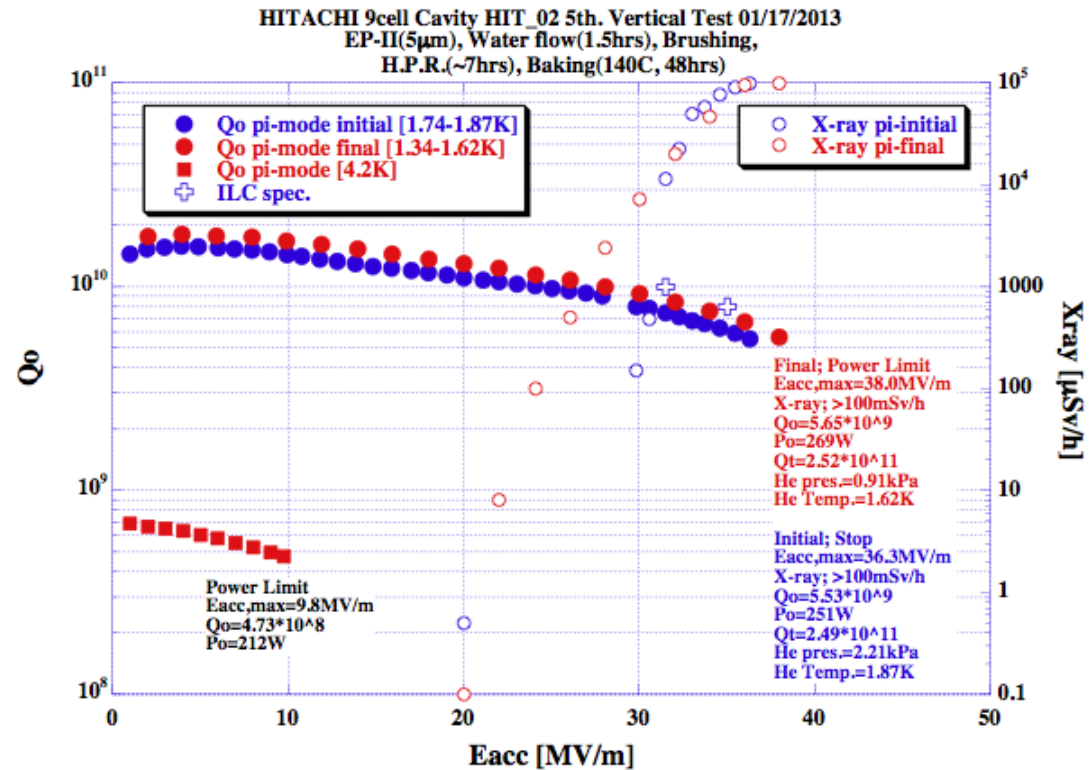
with 2% FM-20 detergent

-> was effective, but not sufficient.

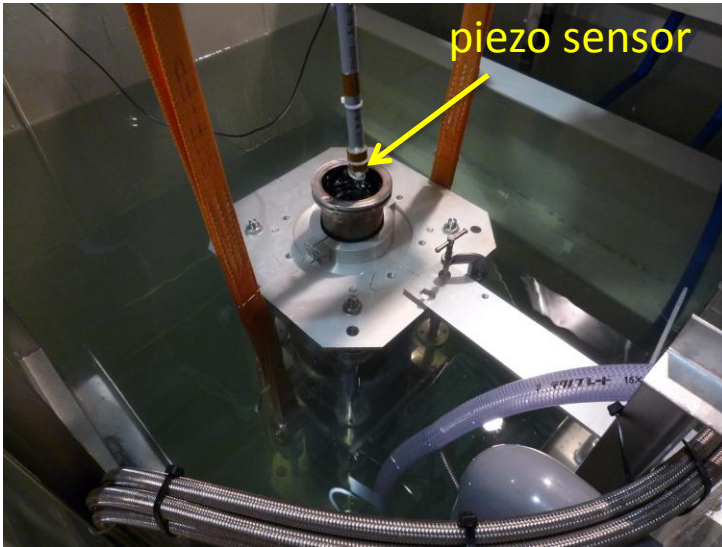
5-th vertical test : skip ultrasonic rinsing radiation was factor 3 higher than before.



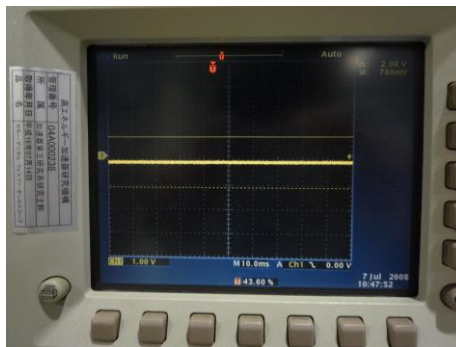
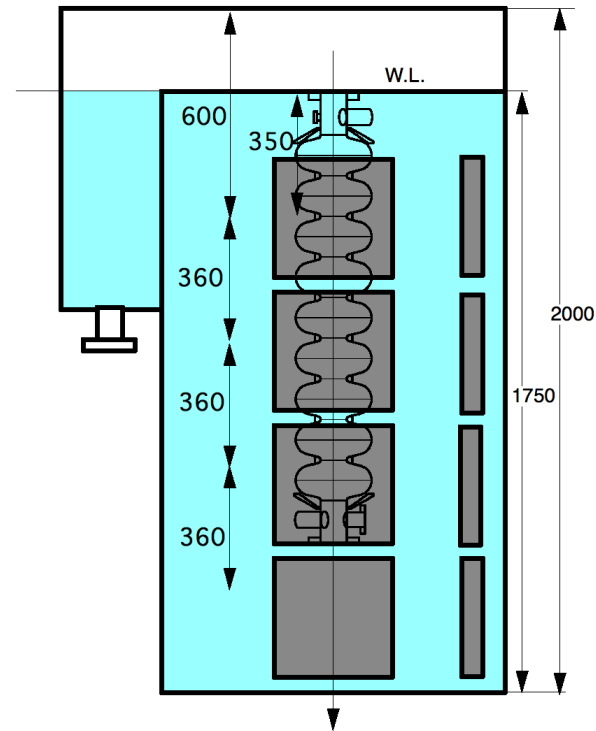
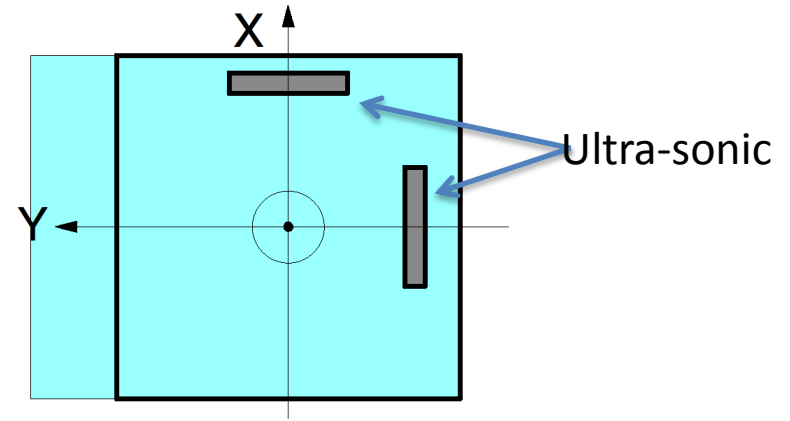
2-nd vertical test : as a reference (radiation was not plotted, but about one order lower than 5-th test)



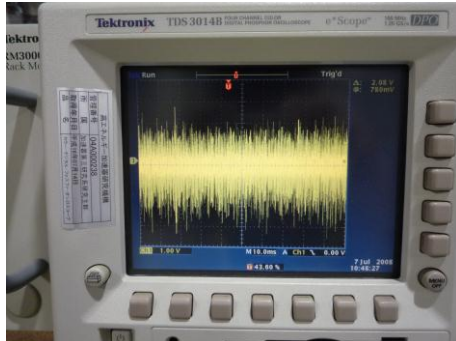
Measurement of Ultrasonic amplitude (July 2008)



set-up of Ultrasonic sensor



Ultrasonic OFF

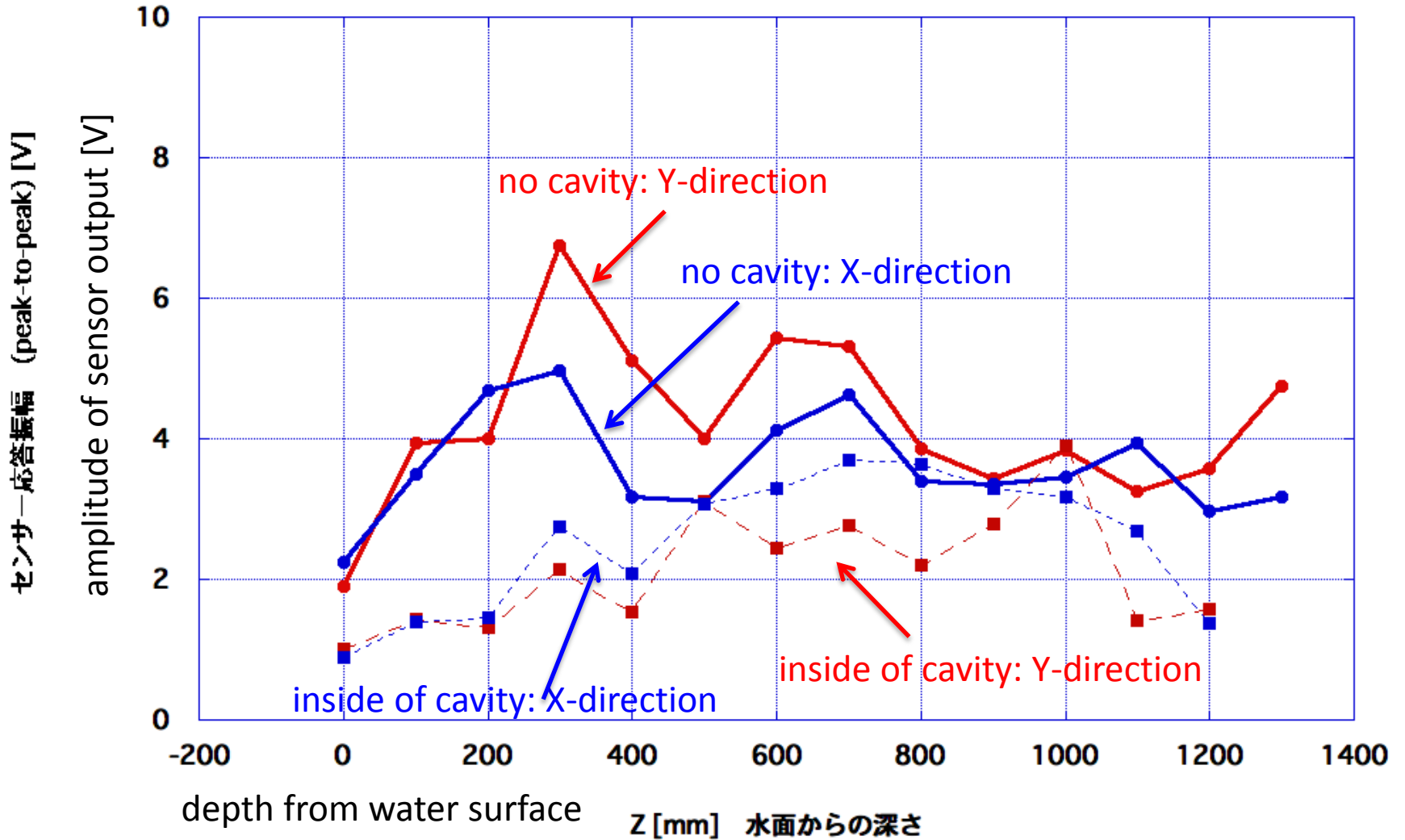


Ultrasonic ON

Comparison of ultrasonic intensity with/without cavity (July 2008)

- X=0,Y=0, センサー向きがY方向
- X=0,Y=0, センサー向きがX方向
- - 空洞内: X=0,Y=0, センサー向きがY方向
- - 空洞内: X=0,Y=0, センサー向きがX方向

超音波洗浄槽内の超音波音圧振幅の測定 槽内と空洞内の比較

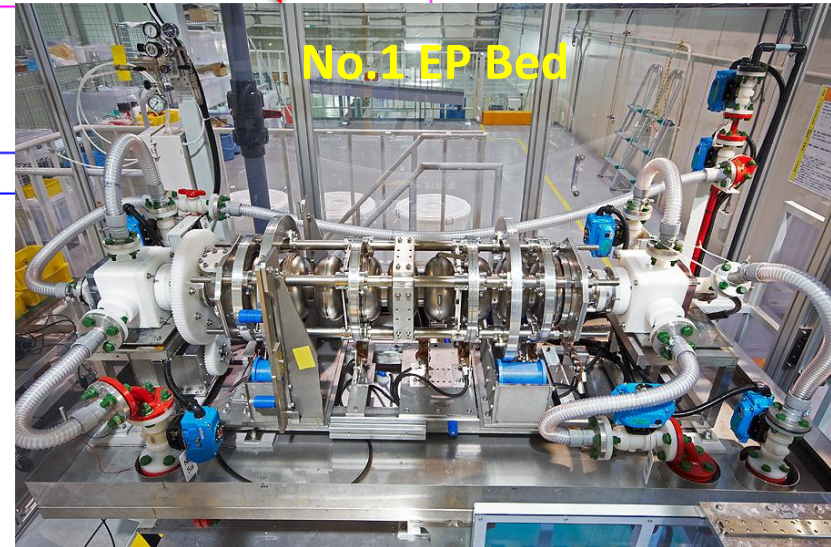
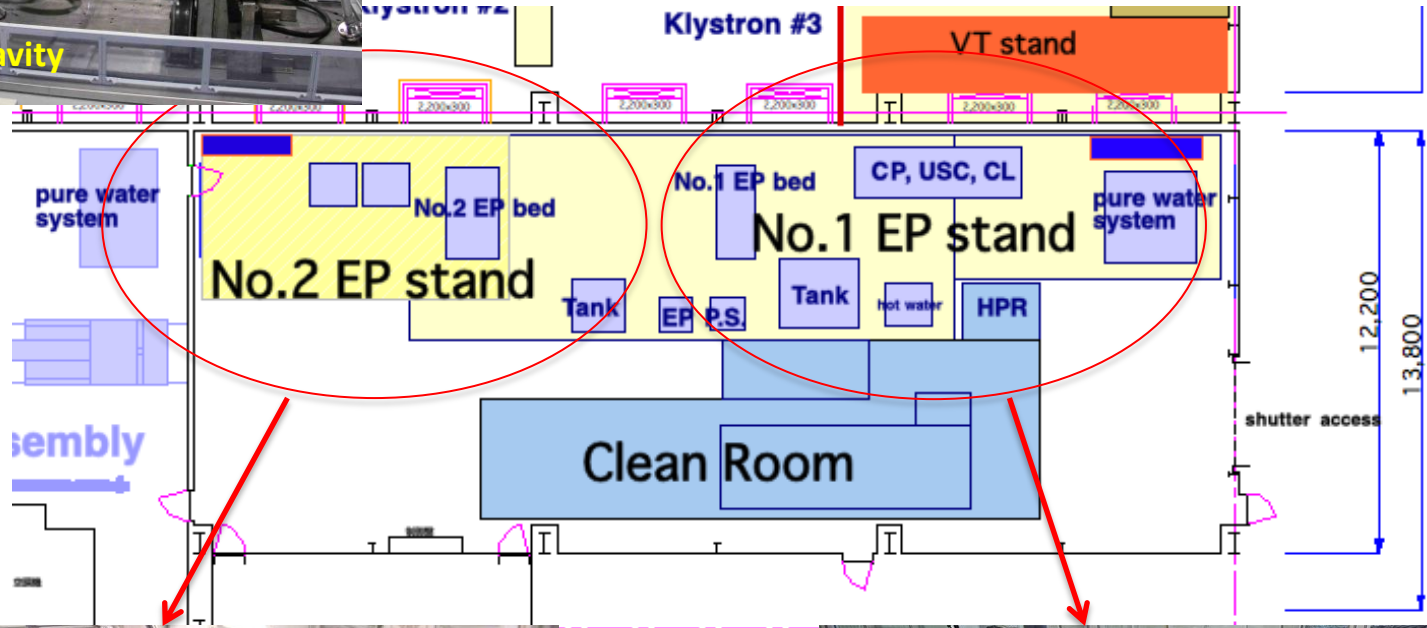


Intensity was about similar or half for inside of the cavity

STF EP Facility

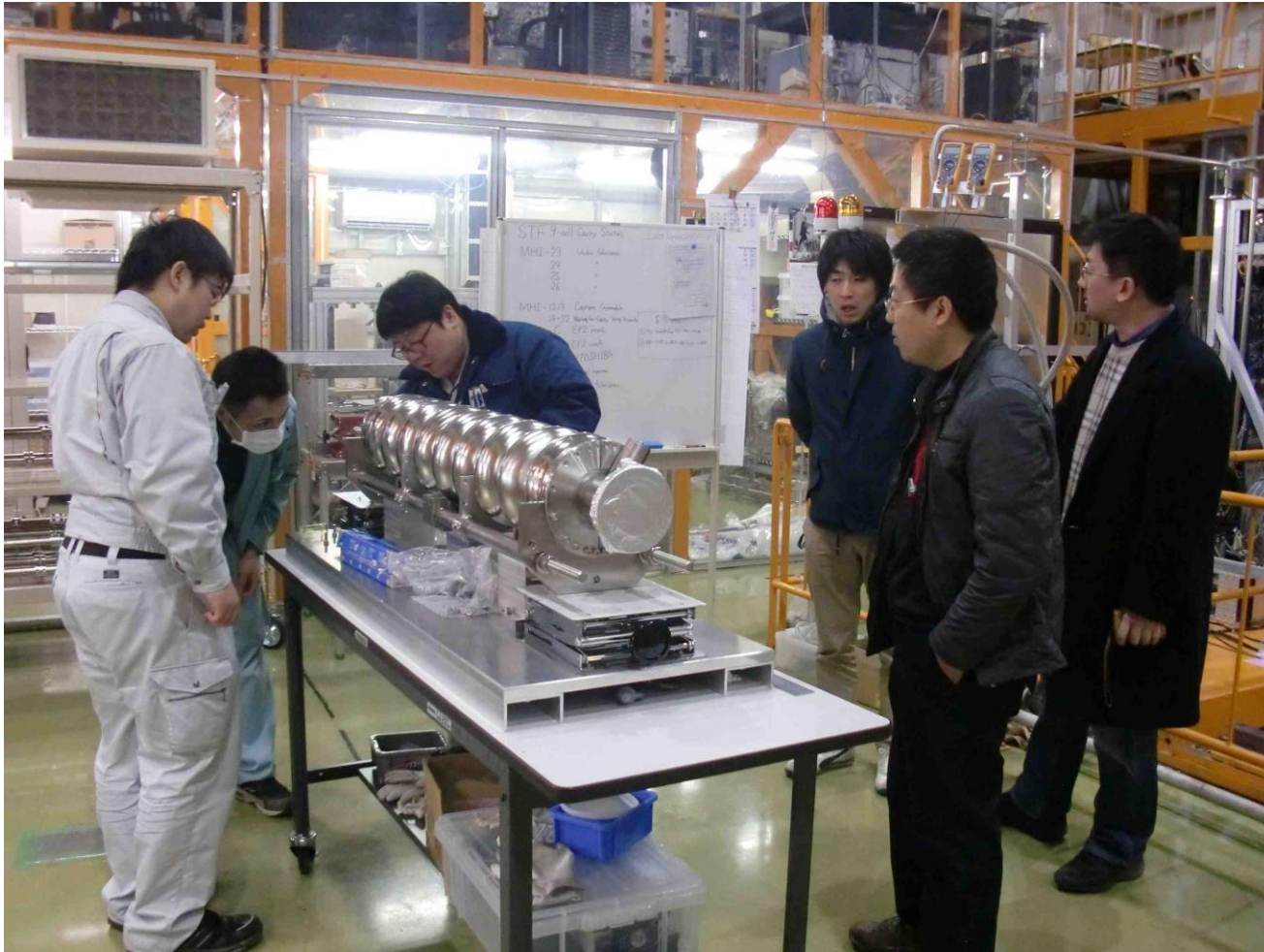
No.2 EP stand is now utilized for ILC cavities

No.2 EP Bed
for 500MHz cavity



Collaboration with Beijing University

EP process & vertical test for PKU04 (large grain cavity) on a way



vertical test is scheduled on the next week(Feb. 28).

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