

History of EP cavity tests

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Cavity P4-HAF/P5-HAF (heat treated at 1400C)

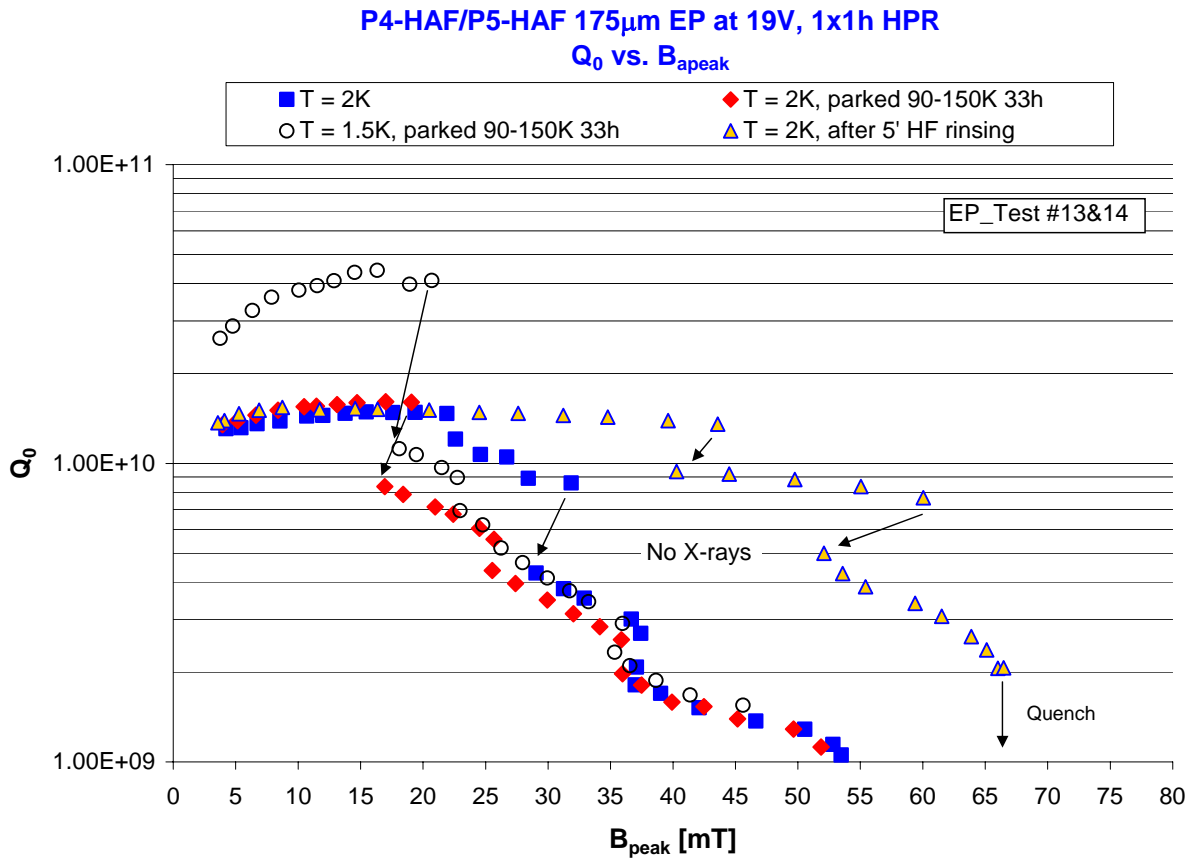
The last test of the cavity before EP was a quench at $B_p=112$ mT, $Q=1.18e10$.

Cavity was EPed at 19 V, 52 A voltage control mode for about 3 h.

- test at 2 K: Q-switches, $R_{res}=6.5n\Omega$
- Q-disease check: cavity parked at 90-150K for 33h. Test at 2 K showed no Q-disease, still Q-switches which are T-independent

Cavity was rinsed with pure HF for 5min to dissolve Nb_2O_5 .

- - test at 2 K: Q-switches moved at higher field



Cavity was EPed again at 17V, 25A in current control mode but the cathode bag was placed reversed and the test at 2 K showed Q-disease.

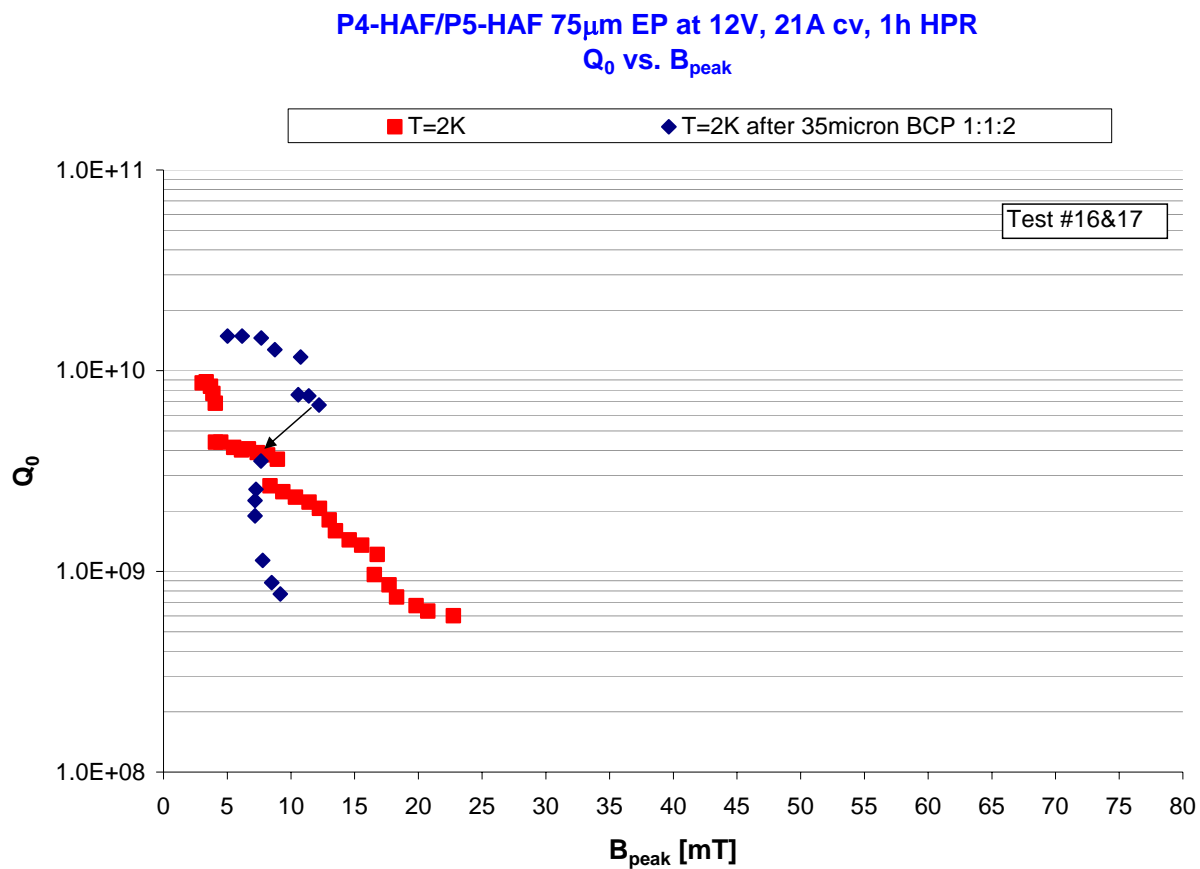
Cavity was heat treated at 800C in vacuum furnace for 3h to remove hydrogen.

Cavity was EPed at 12V, 21A voltage control mode; cathode was shielded with Teflon tape up to the irises

- test at 2 K showed Q-switches even at lower field

Cavity was BCP 1:1:2, 35 μm

- test at 2 K still showed Q-switches



Cavity HP1-9105/HP2-9117 (heat treated at 1400C)

An acid sample taken from EP cabinet was used in a cell to polish sample: it was found that HF content was too low.

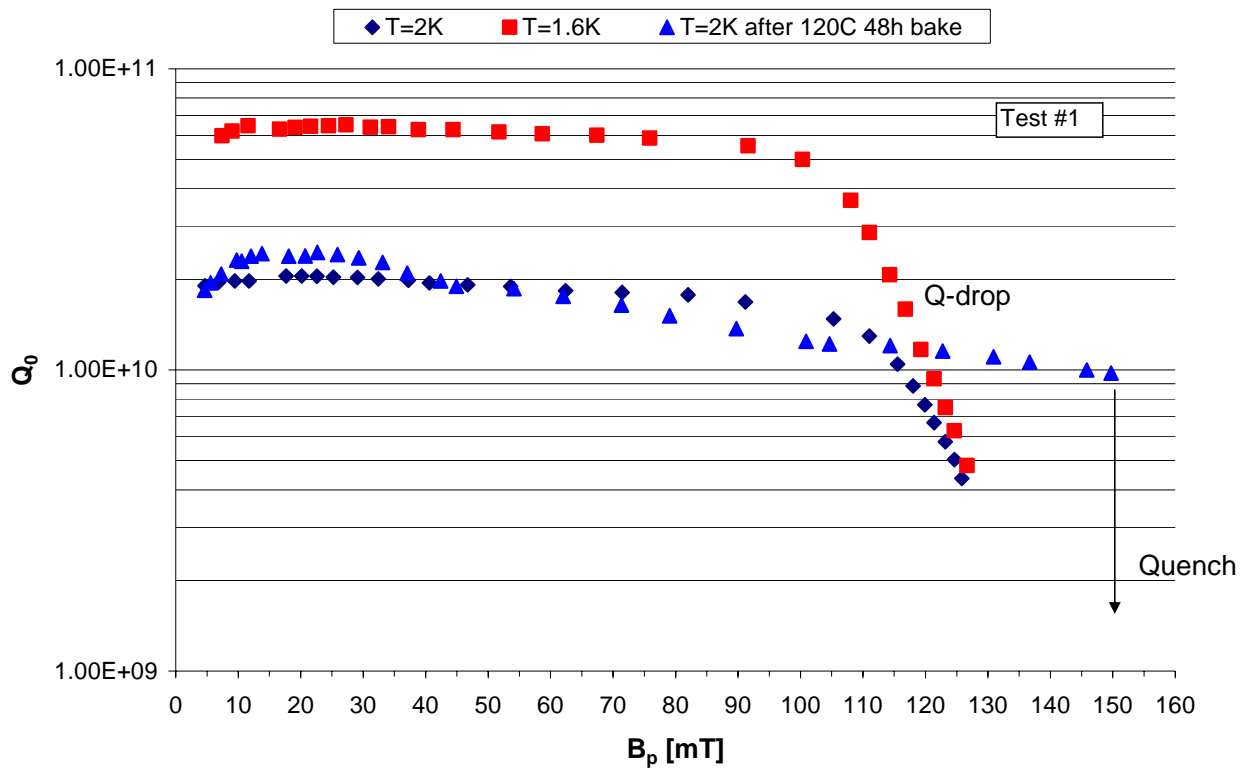
Fresh acid was used to EP the cavity at 17V, 20A in voltage control mode. Surface looked gray

- test at 2 K: Q-drop starting at $B_p=105$ mT, $R_{res}=2.3$ n Ω

Cavity was baked at 120C for 48h

- test at 2 K: quench at $B_p=150$ mT

CEBAF Single cell cavity HP1-9105/HP2-9117 3h EP voltage control, I=20A, 1h HPR

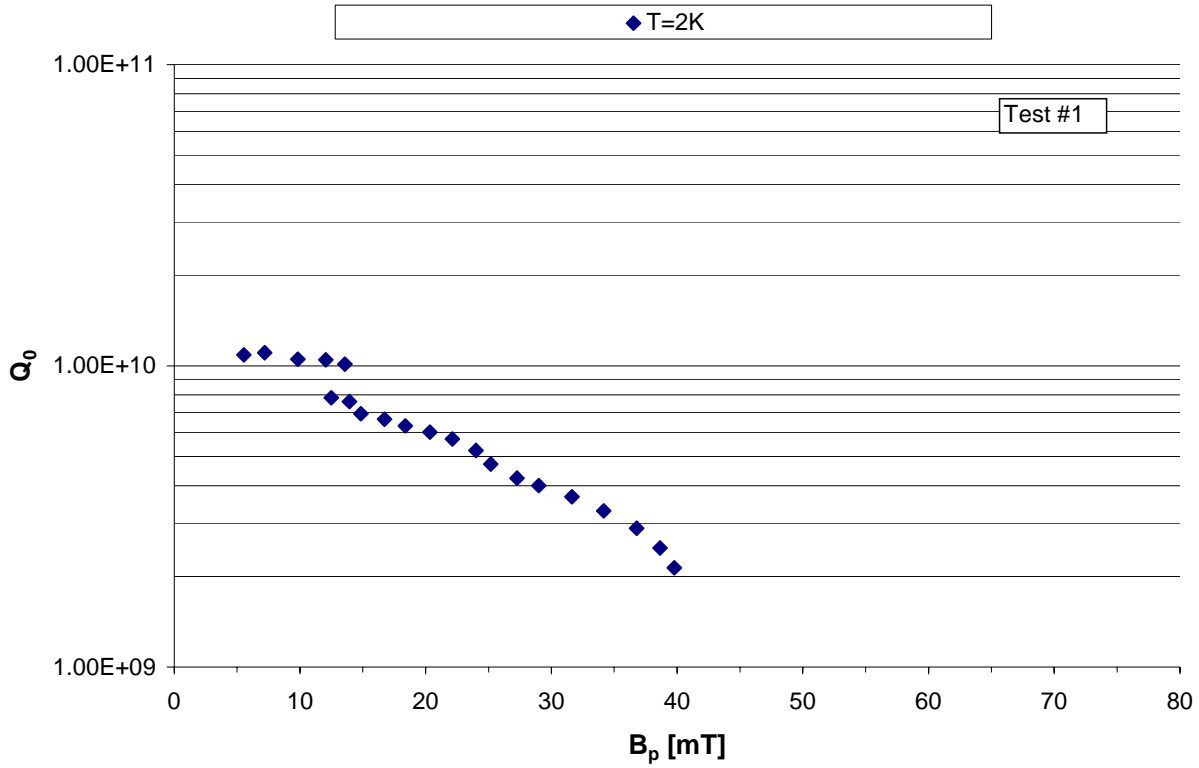


Cavity P3-49/P2-45

Cavity was EPed at 17V, 20 A in voltage control mode 12 days after cavity HP1-9105/HP2-9117.

- test at 2 K: Q-switch, Rres=11.2nΩ

CEBAF Single cell cavity HP1-9105/HP2-9117 3h EP voltage control, I=20A, 1h HPR



The I-V curves for the bad and the good test overlap.