S0 Status

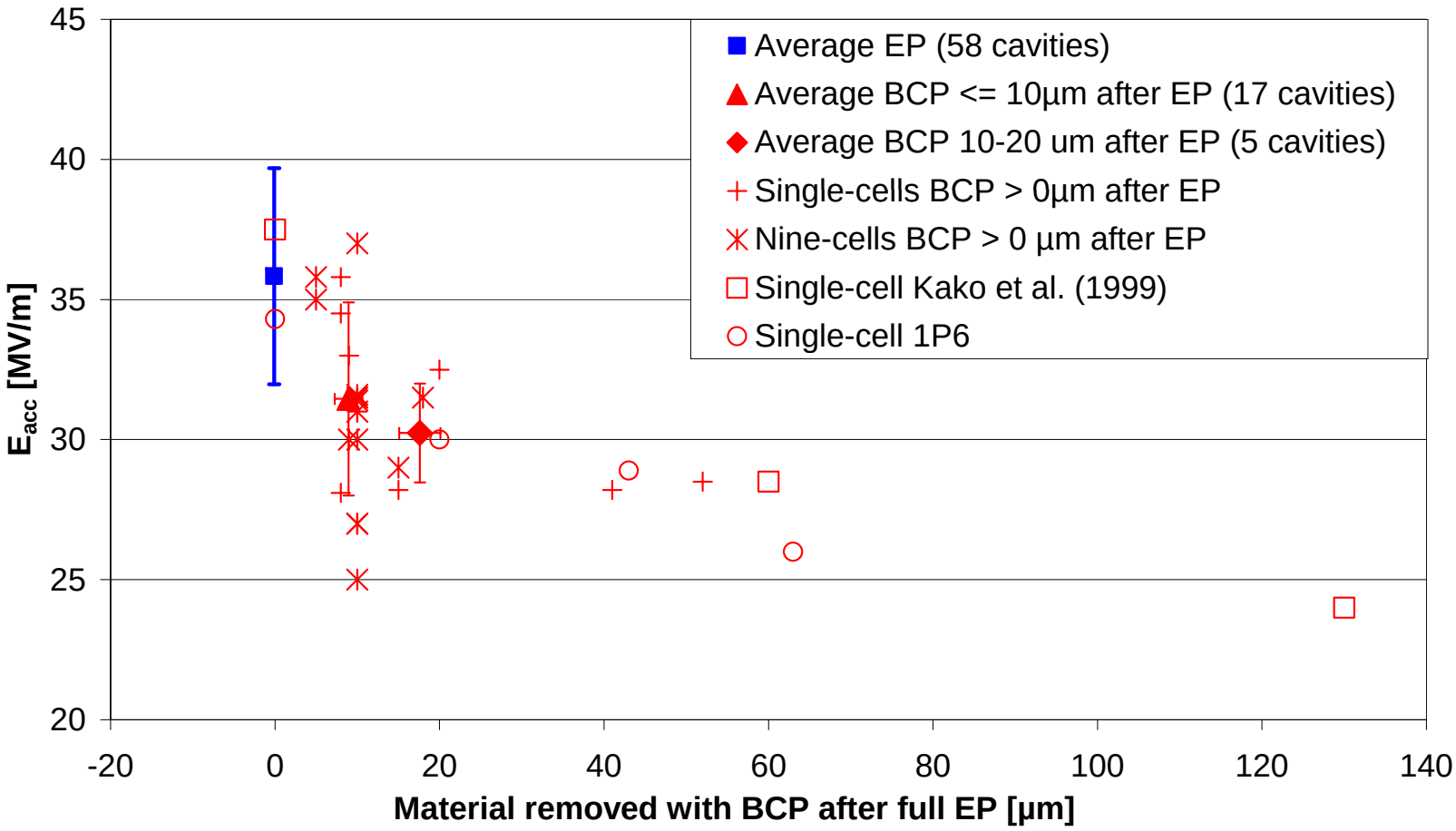
Ongoing Activities

- Regional Update
  - **US and Europe**
    - Asia by H. Hayano
  - **Cavity Testing**
  - **T-Mapping & Optical Inspection**
    - Next steps

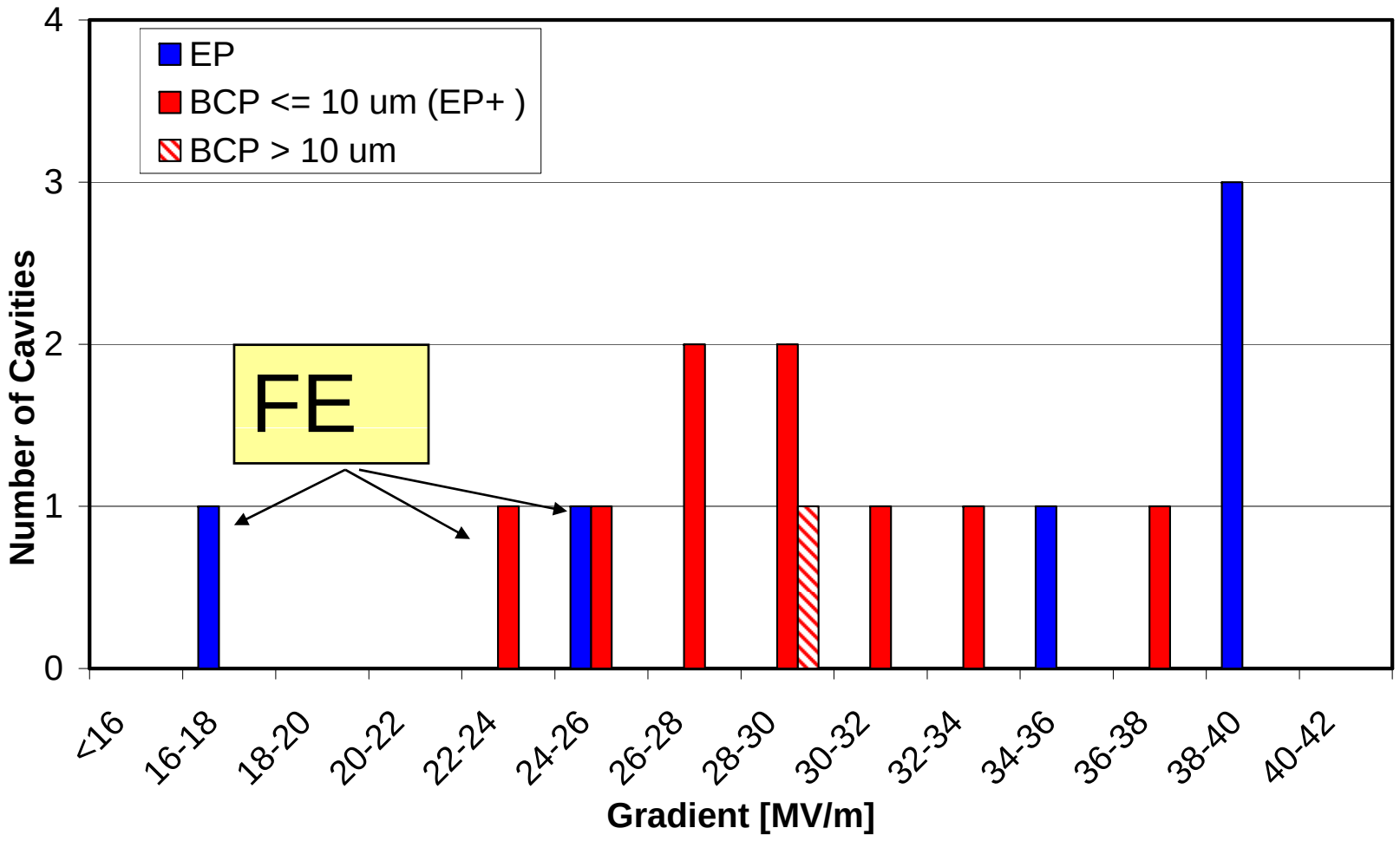
EU Status

- Continued testing of BCP and EP final preparation
  - **Results update at LINAC08**
- KEK/Kyoto-type optical inspection sytem has arrived at DESY
  - **Being set up now**
- Preparation for module transport test to Saclay

Etching after EP



Comparison of Etch and EP as final treatment



US

Progress at Argonne/Fermilab

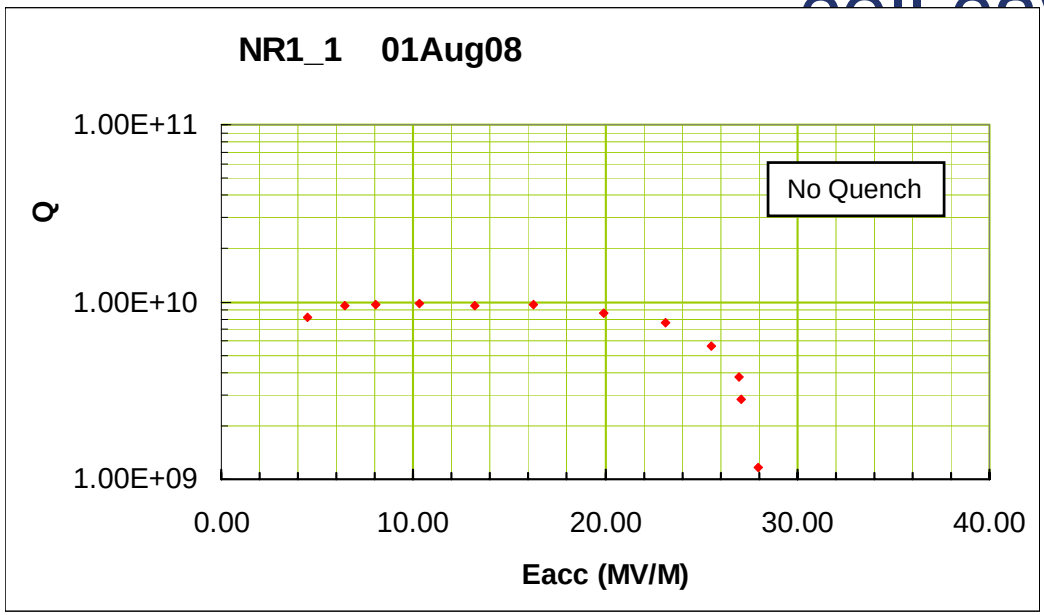
Argonne

- Safety review conducted for new high-pressure rinsing system
  - **Expect approval to proceed with commissioning in next week**
- Vertical ultrasonic cleaner received
  - **Installation in progress**

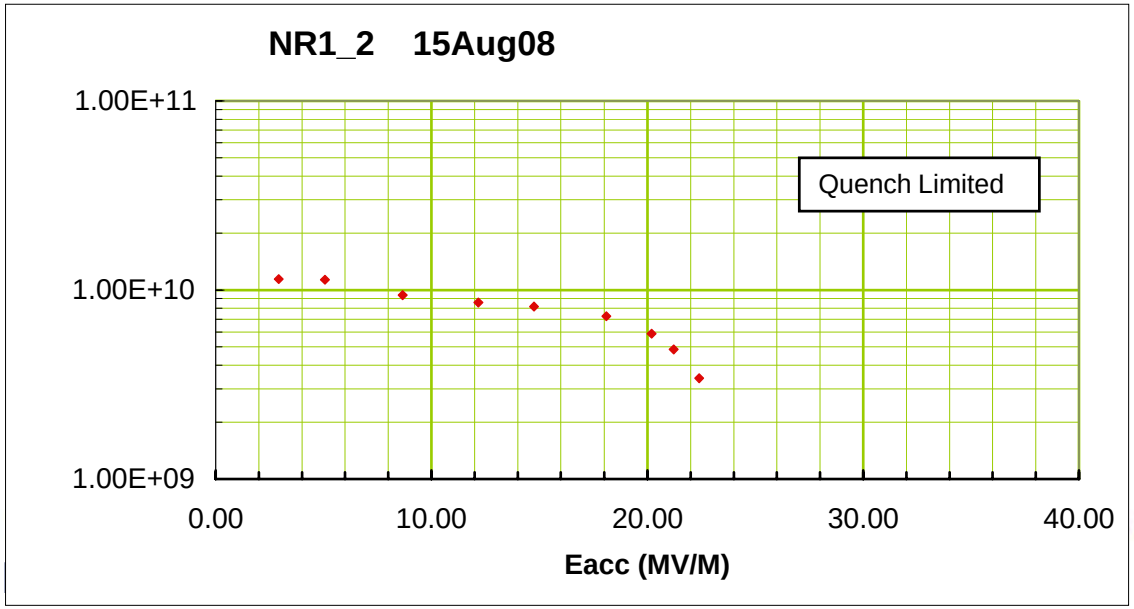
Fermilab

- Electro-polished AES single-cell cavity (TE1AES004) being mounted to vertical test stand this week
  - **Will be tested next week with T-mapping system**
- End of fiscal year procurements
  - **12 nine-cell cavities from US vendors**
  - **Optical inspection system from Japan (Kyoto/KEK collaboration)**

Progress at Cornell: qualification of Niowave/Roark single-cell cavities

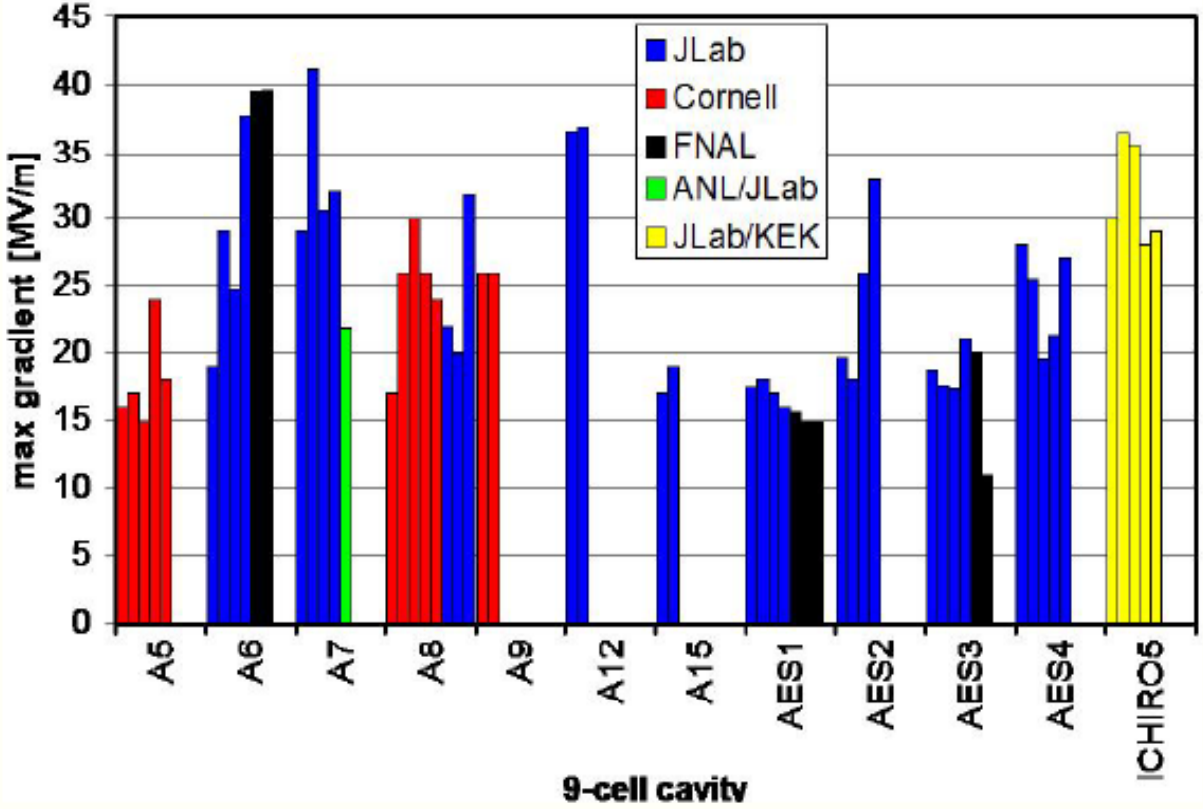


- Second-sound technique used to determine quench location near equator
- Cavity interior will be inspected for defects



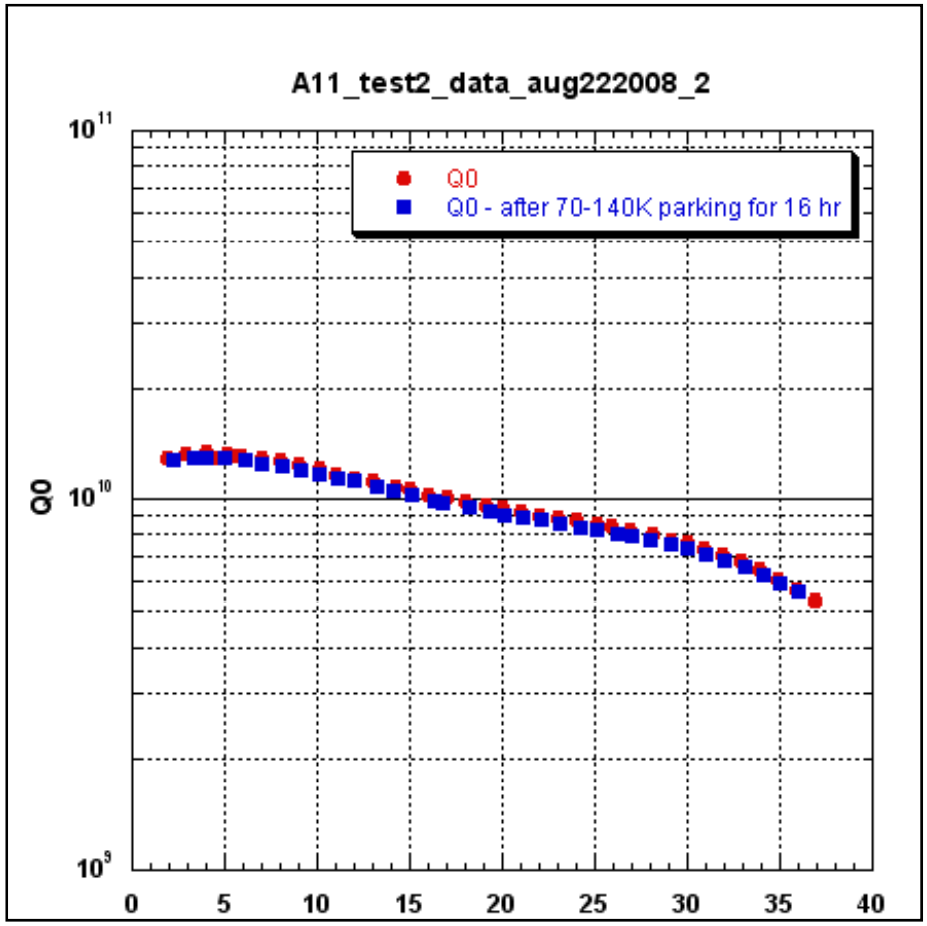
Americas Summary for ILC cavities

Fermilab



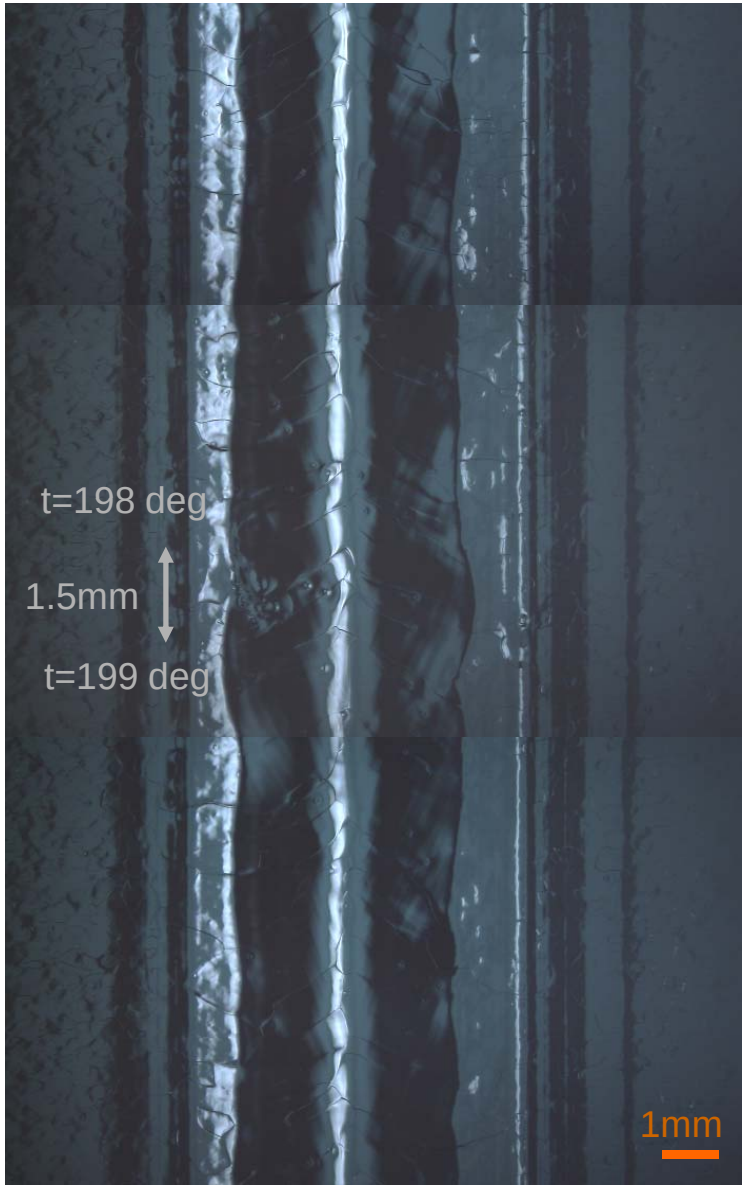
Progress at Jefferson Lab

- Q-disease has been ruled out for the low Q observed in A11 (see graph). Some magnetized hardware is found in A11 testing; some elevated residual magnetic field is observed in testing dewar. We have solutions to these issues and plan to re-test A11.
- First RF test of J2 (one of the JLab built new fine-grain niobium 9-cell) reached 30 MV/m. A Q-drop beginning at 26 MV/m was observed. This is correlated with a less-perfect bulk EP. We will perform a T-mapping test next and then another light EP. The cause of less-perfect EP parameters is under investigation - focusing on finding possible water leak into the acid.
- A12 is under preparation for cleaning and assembly and shipping to FNAL under vacuum.

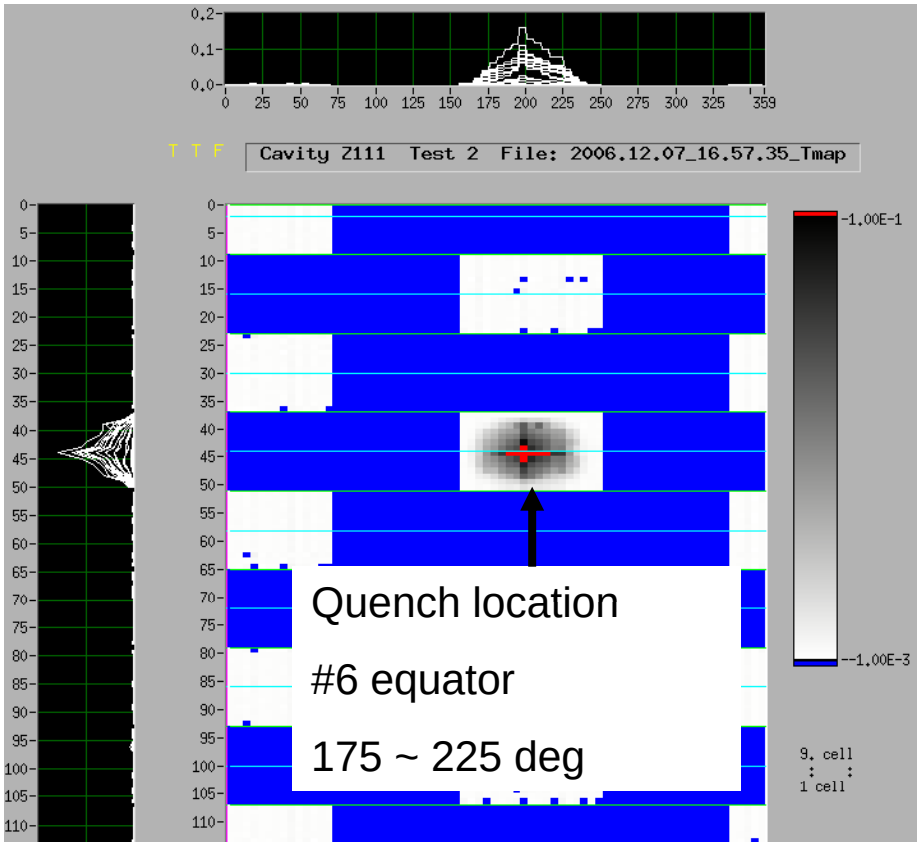


TESLA cavity Z111: #6 cell equator

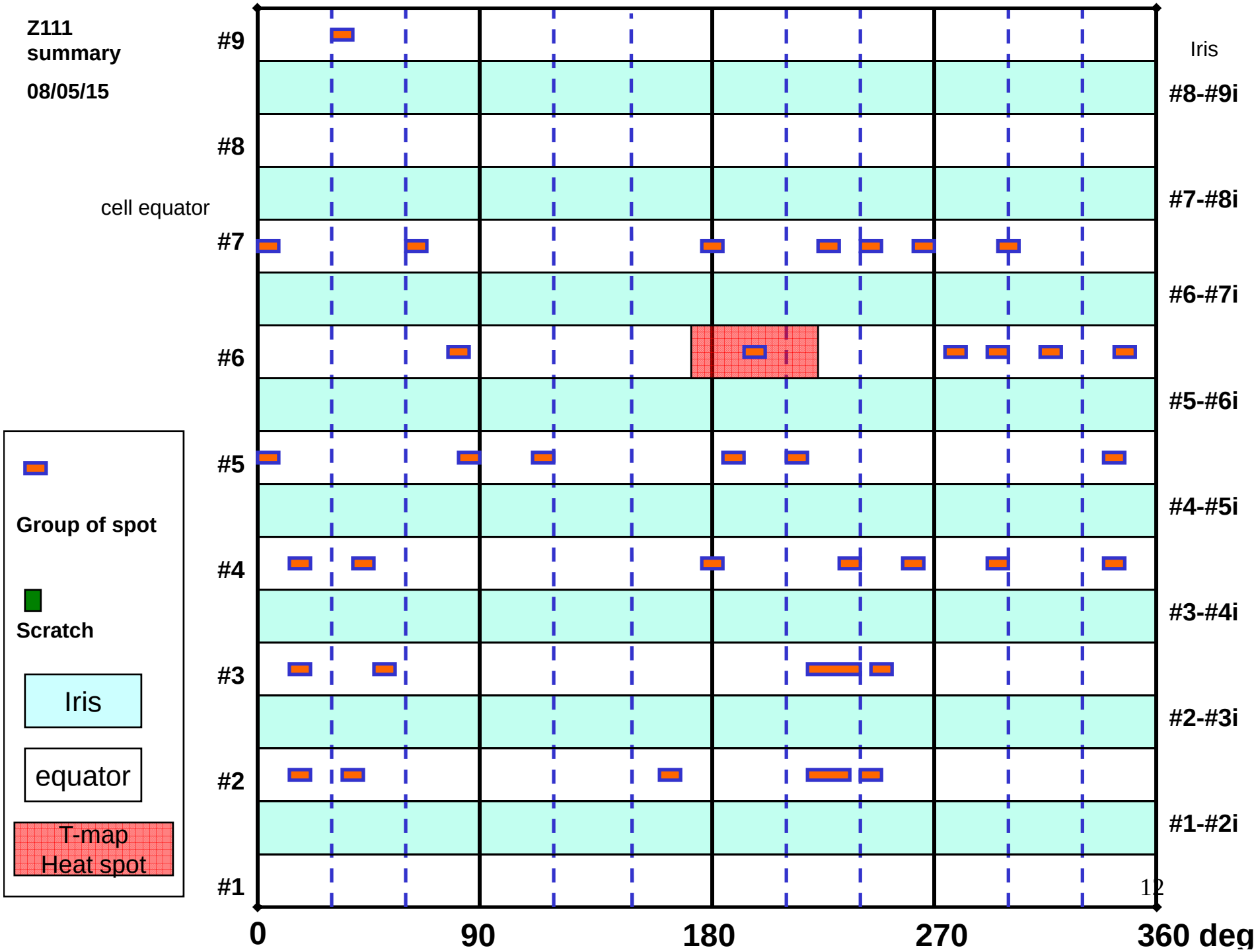
#6 equator, t=193 ~ 204 deg



T-map data in test 2, 16.0 MV/m



group of beads(?) with 1.5mm wide were observed.


Z111
summary
08/05/15
#9
#8
cell equator
#7
#6
#5
#4
#3
#2
#1
Iris
#8-#9i
#7-#8i
#6-#7i
#5-#6i
#4-#5i
#3-#4i
#2-#3i
#1-#2i
Group of spot
Scratch
Iris
equator
T-map
Heat spot
0
90
180
270
360 deg

Next Steps:

- Combined temperature mapping optical inspection have revealed defects in all cases
  - **At least to my knowledge**
  - **Example: Z111**
- Use TTC Meeting for
  - **compilation of all data**
    - Exact quench location
      - Weld, Heat-affected Zone or else
        - » Also for stiffening rings
    - Size of defect
  - **Discussion of a classification scheme**
- New Studies
  - **Sample studies**
  - **Cutting apart cavities**
    - E.g. Z110