EU Status

Overview

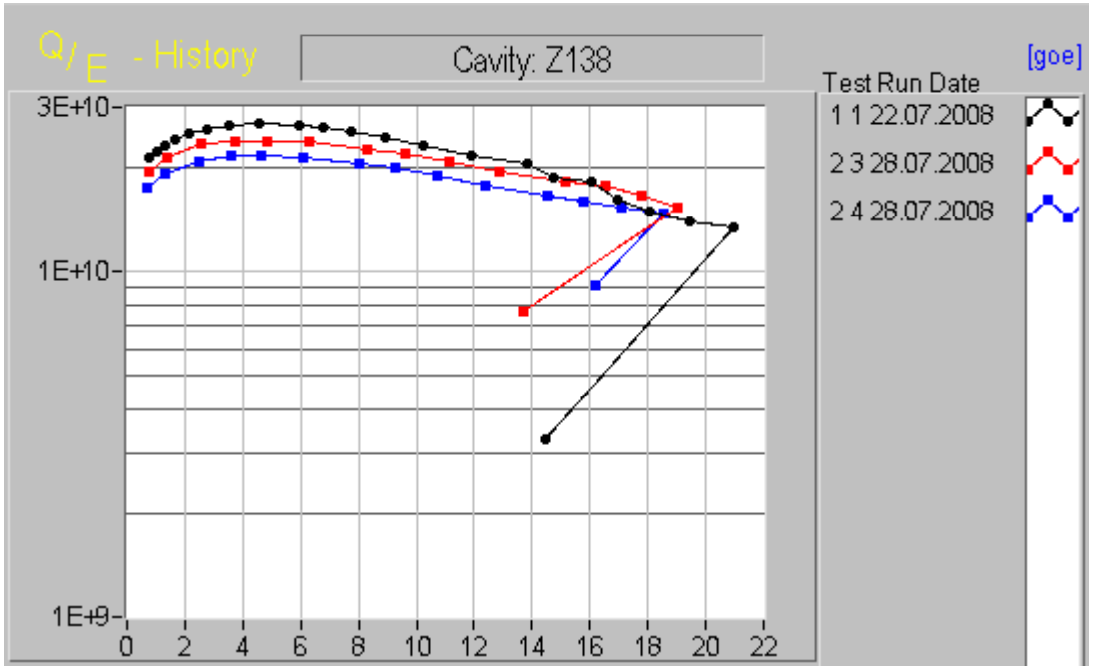
- Higrade-Kick-Off Meeting
  - **End of this week**
    - https://www.ilc-higrade.eu/
- DESY: Nine-cell ‘standard’ results
  - **Problems with full tank tests including HOM couplers**

Problems with Standard Cavities

- Goal: Simply XFEL assembly procedure
  - **Mount all antennas except for the main coupler and tank before vertical test**
  - **No t-maps possible…**
  - **Mode measurments not completely possible, because of HOM …**
- Several cavities exhibit a ‘Q-switch‘ at around 15 MV/m
- Situation is unclear right now
  - **Thermal effect is seen**
    - Q-switch
    - Depends on field gradient
    - Needs time to recover
  - **Correlation to the HOM antennas is seen**
    - Only lower antenna, opposite main coupler
    - Whether the feedthrough for the antenna plays a role is unknown
      - Both new and old type have shown problems
    - Removal of antennas removes Q-switch

CAVITY	Z138
TEST	2 / Vertical 2
HISTORY	RF connectors checked, HOM power meter head exchanged.
RESULTS	$E_{acc.max}$=20MV/m with low field $Q_0=2\times10^{10}$ Limited by the Q-switch, low Field Emission (10^{-2} mGy/min)
SUMMARY	Cavity tested second time after the RF connectors check and HOM coupler power meter head replacement. Results do not differ much from previous test. FE starts at 14.5 MV/m, MP at 17..20 MV/m – was conditioned. Q-switch effect is stable and repeatable at 20 MV/m. No parasitic modes exited, no problems with HOM couplers: maximum HOM coupler power was about 0.3 W and $Q_{load.HOM}$ is about 10^{12}.

history


Q/E - History
Cavity: Z138
[goe]
Test Run Date
1 1 22.07.2008
2 3 28.07.2008
2 4 28.07.2008
3E+10
1E+10
1E+9
0
2
4
6
8
10
12
14
16
18
20
22