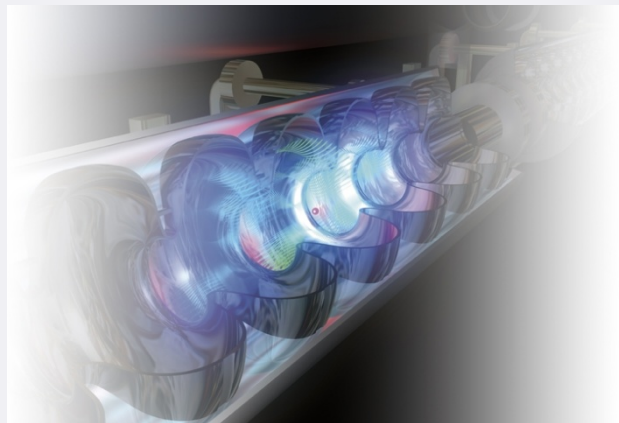




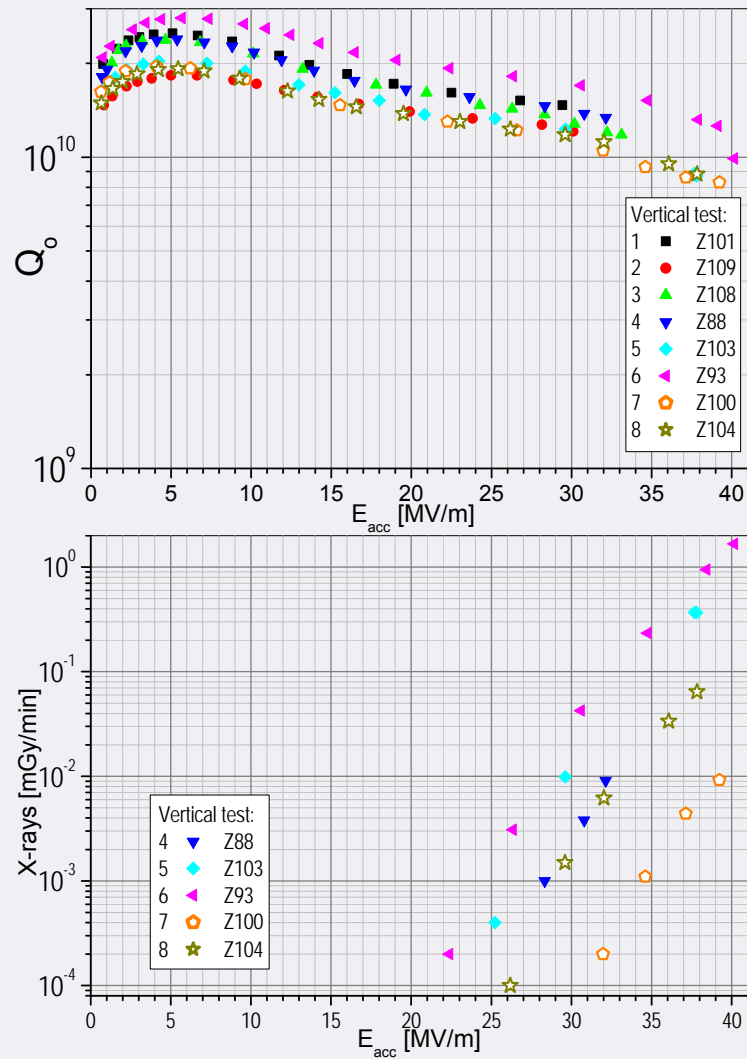
# Module 8, Test results and lessons learned

Hans Weise

TESLA Technology Collaboration Meeting  
New Delhi, October 20<sup>th</sup> – 23<sup>rd</sup>, 2008



# Module 8: Vertical test

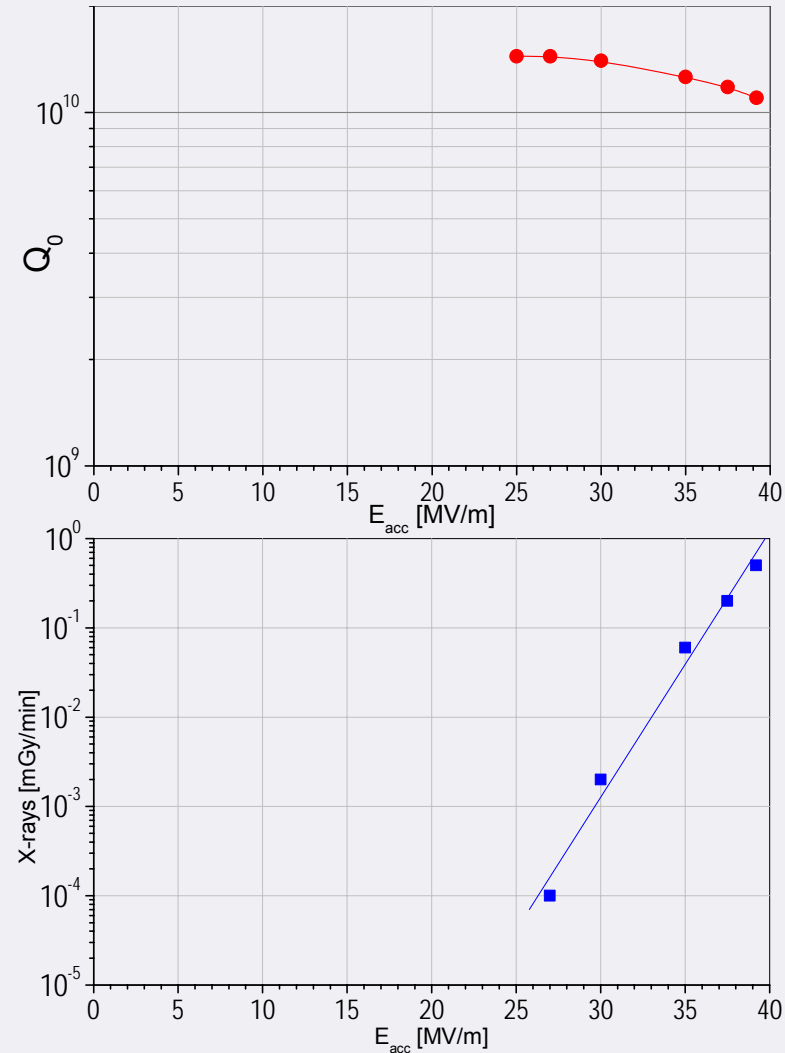


# Module 8: Horizontal test

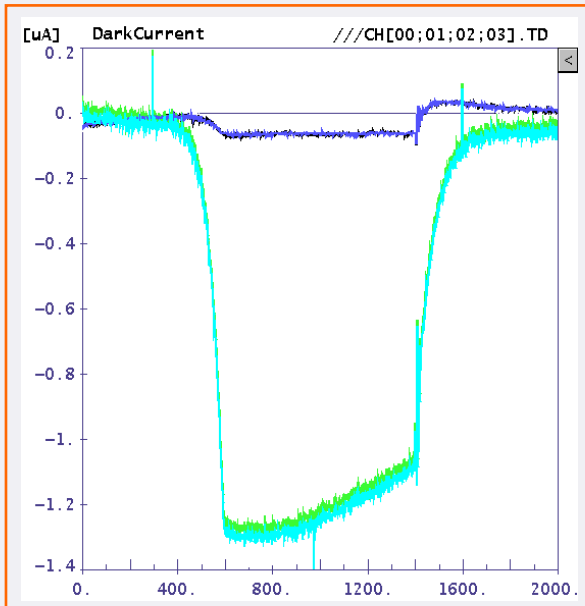
cavity 5: Z103

Quench limited at 40.5 MV/m,  
 $P_{\text{for}} = 500 \text{ kW}$   
 Xrays  $\sim 0.5 - 2.0 \text{ mGy/min}$

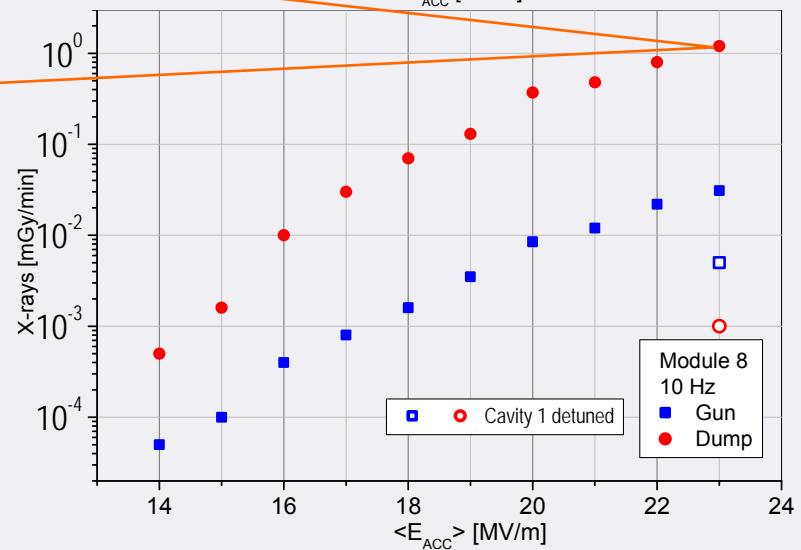
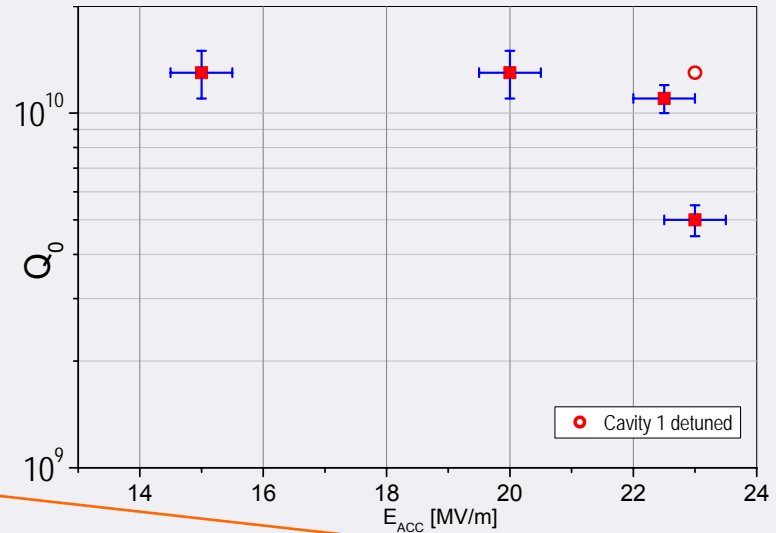
multipacting at 24 MV/m  
 successfully conditioned



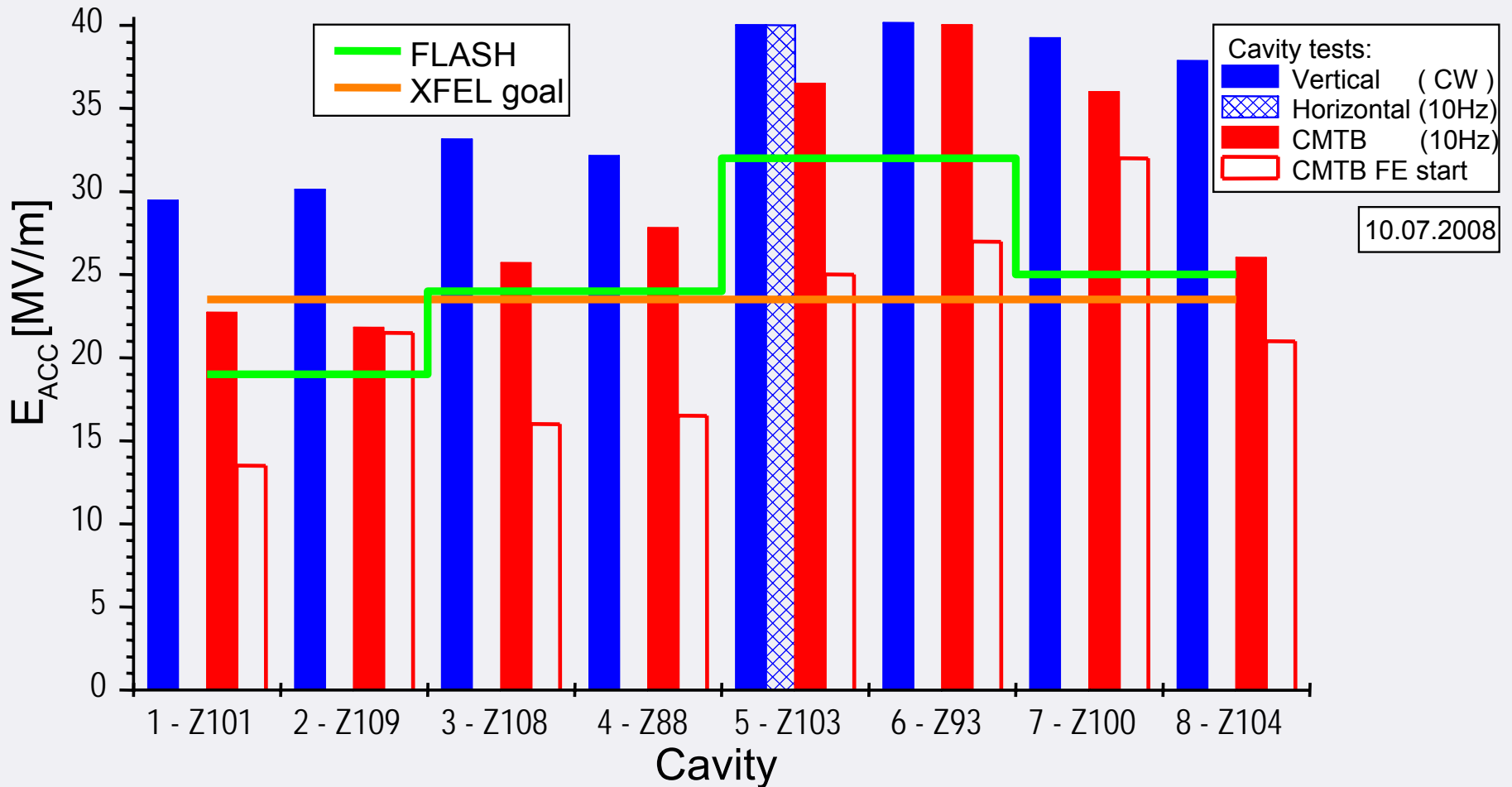
# Module 8: Module test (CMTB)



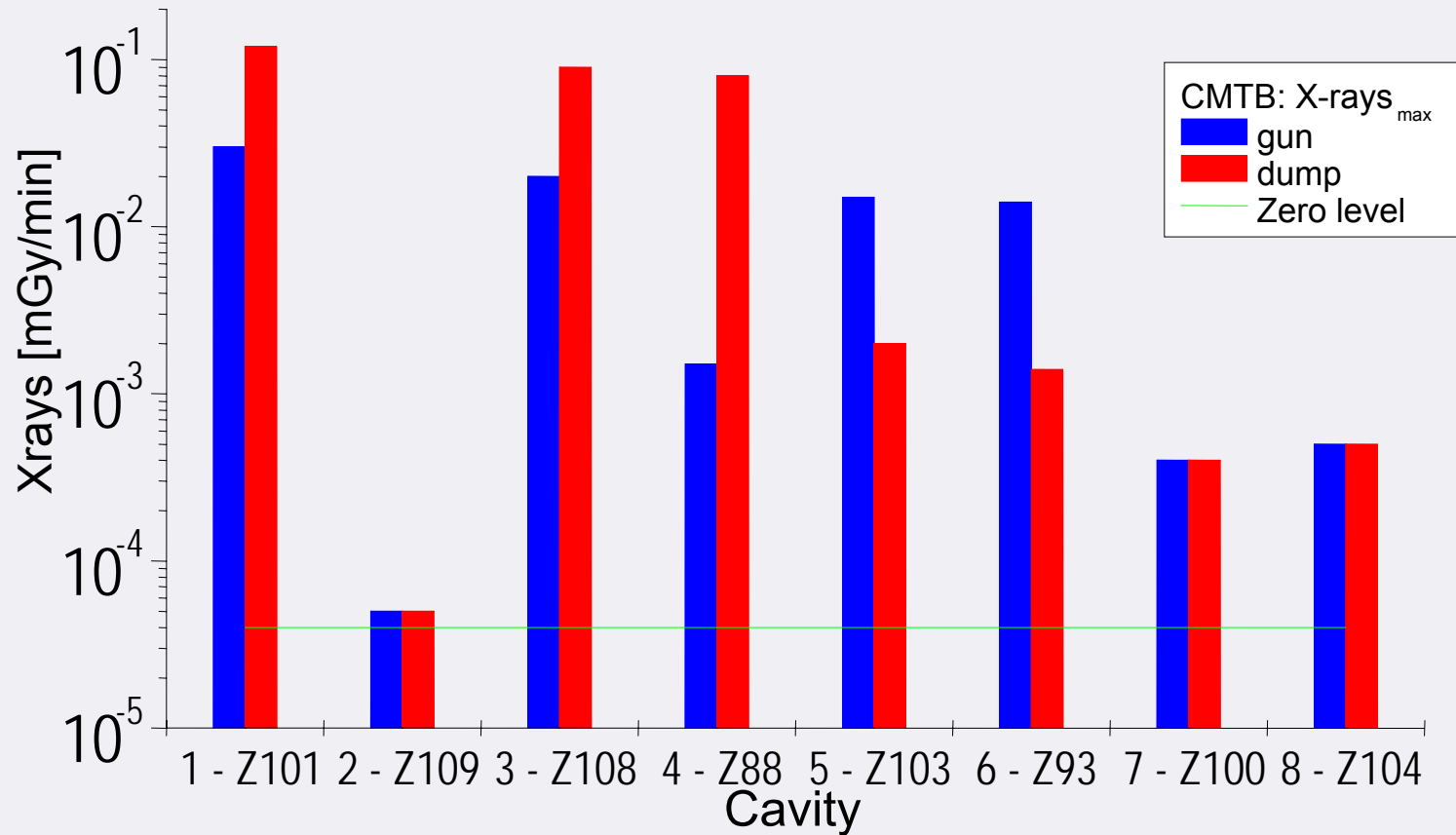
quench limited at  $\langle E_{acc} \rangle = 23$  MV/m,  
by Cav.1 - 3  
Xrays  $\sim 1$  mGy/min,  
dark current  $\sim 1.2$   $\mu$ A



# Module #8 test results



# Module 8: X-rays



## Module 8: Lessons learned

- Module 8 was a test vehicle for an out-sourced module assembly
- The two groups of four cavities each were assembled by two different teams
- Findings:
  - The actual work was done with slightly different ‚respect‘
  - We were unable to identify or describe obvious differences
  - There is the suspicion that the single cavity venting was done with either different care or just different due to an aged venting equipment; we are going to replace the system
  - cav 8 probably suffered from a too fast venting of the string during a quick repair / exchange of an HOM feed-through
- Xrays of Z103 at 35 MV/m
  - vertical      0.1 mGy/min top plate, i.e. pick-up end of cav.
  - horizontal 0.08 mGy/min coupler end
  - module      0.1 mGy/min end of module and coupler end
  - 0.01 mGy/min beg. of module and pick-up end