

Experience with a 4-Rod CW Radio Frequency Quadrupole



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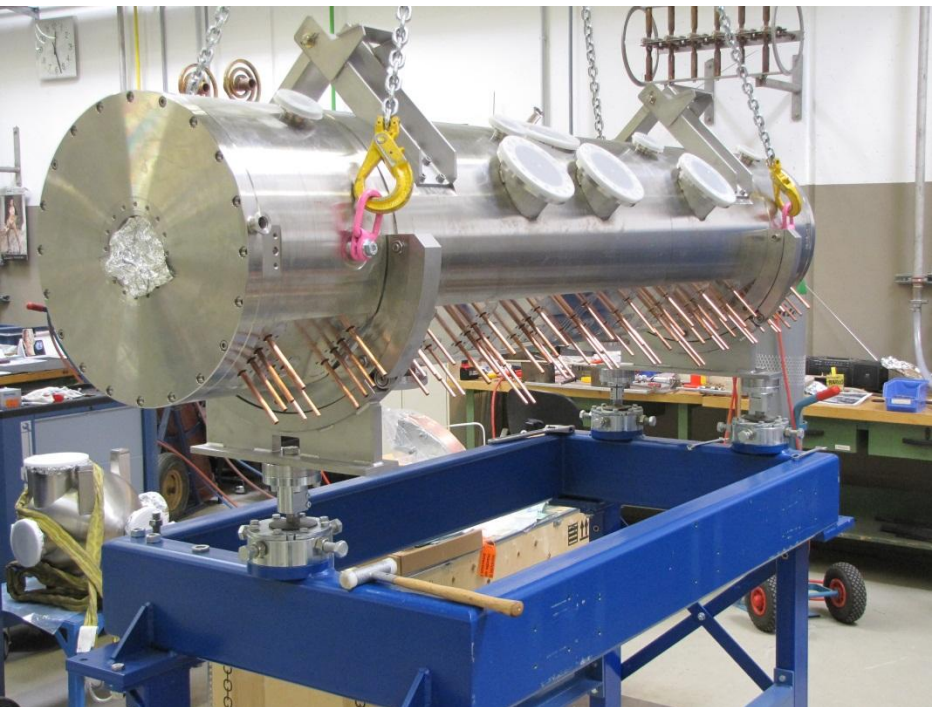




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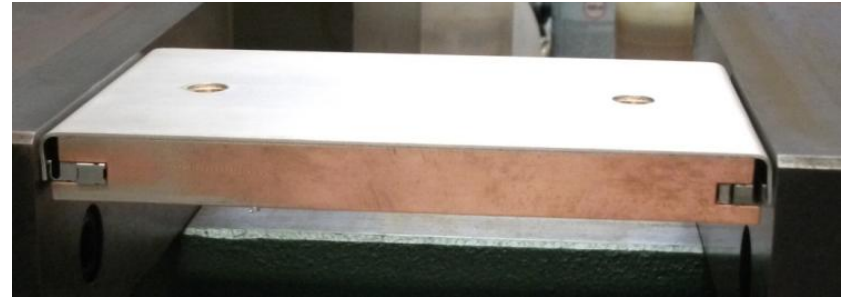
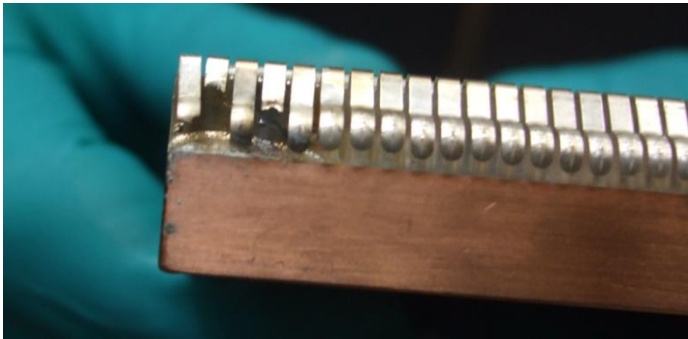
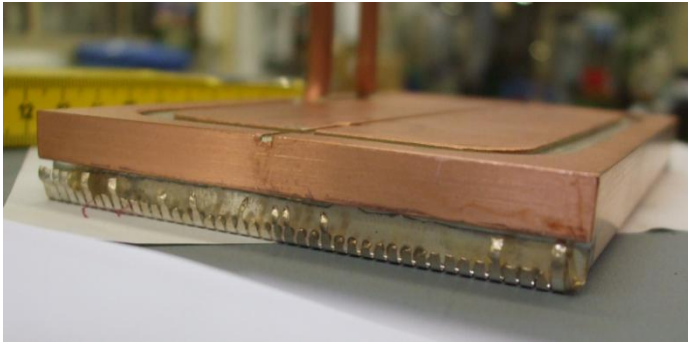
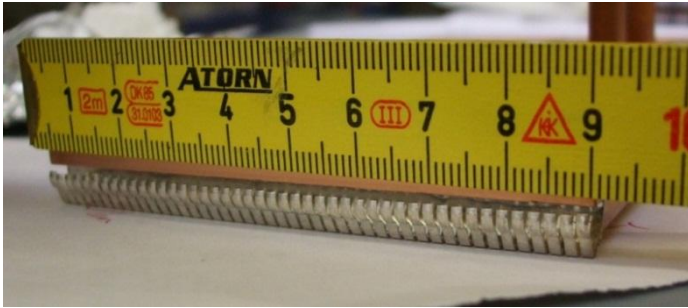
RFQ Upgrade:

- Duty Cycle 30% \Rightarrow 100%, thermal load 12 kW/m \Rightarrow 30 kW/m
- Direct water cooling, elaborate engineering
- Rapid thermal/frequency response to thermal load





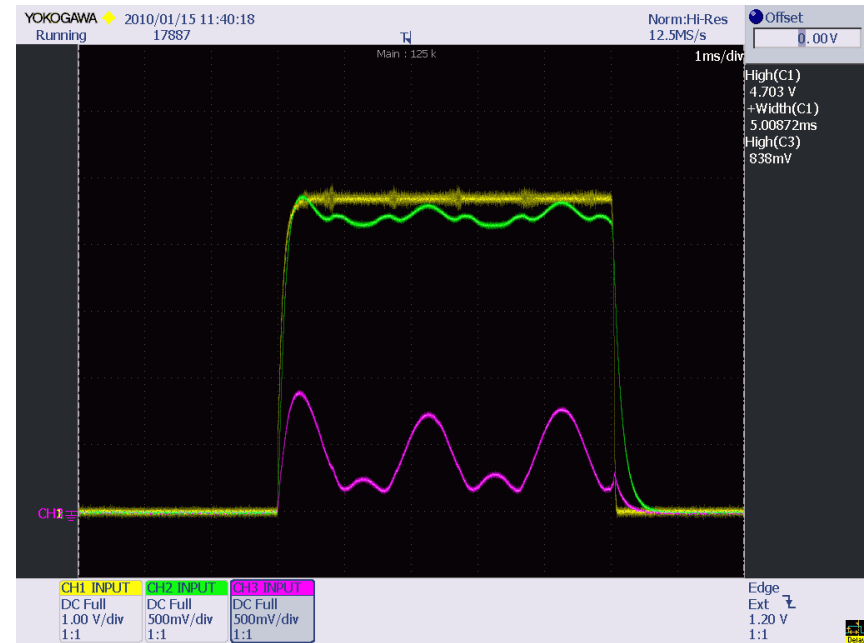
Several breakdowns of contact springs: Improvement by different mechanism





Strong modulation of rf tank response, depending on operating parameters

⇒ vibrations of electrode rods or coupling loop





Also on the poster:

- Commissioning report

Thank you for your attention
and
see you at THPB035!

Other interesting (RFQ-related) contributions :

- MOPB098, X. Chen et al., "Demonstration of emittance transfer through eigen-emittance shaping"
- MO3A01, G. Clemente et al., "Development of H-mode Cavities Linacs for the FAIR Project"
- TUPB074, W. Barth et al., "Superconducting cw Heavy Ion Linac at GSI"
- TUPB035, S. Yaramishev et al., "A New Design of the RFQ Channel for GSI HITRAP Facility"
- THPB034, L. Groening et al., "Status of the FAIR 70 MeV Proton Linac"