Cavity Meeting IBIC13

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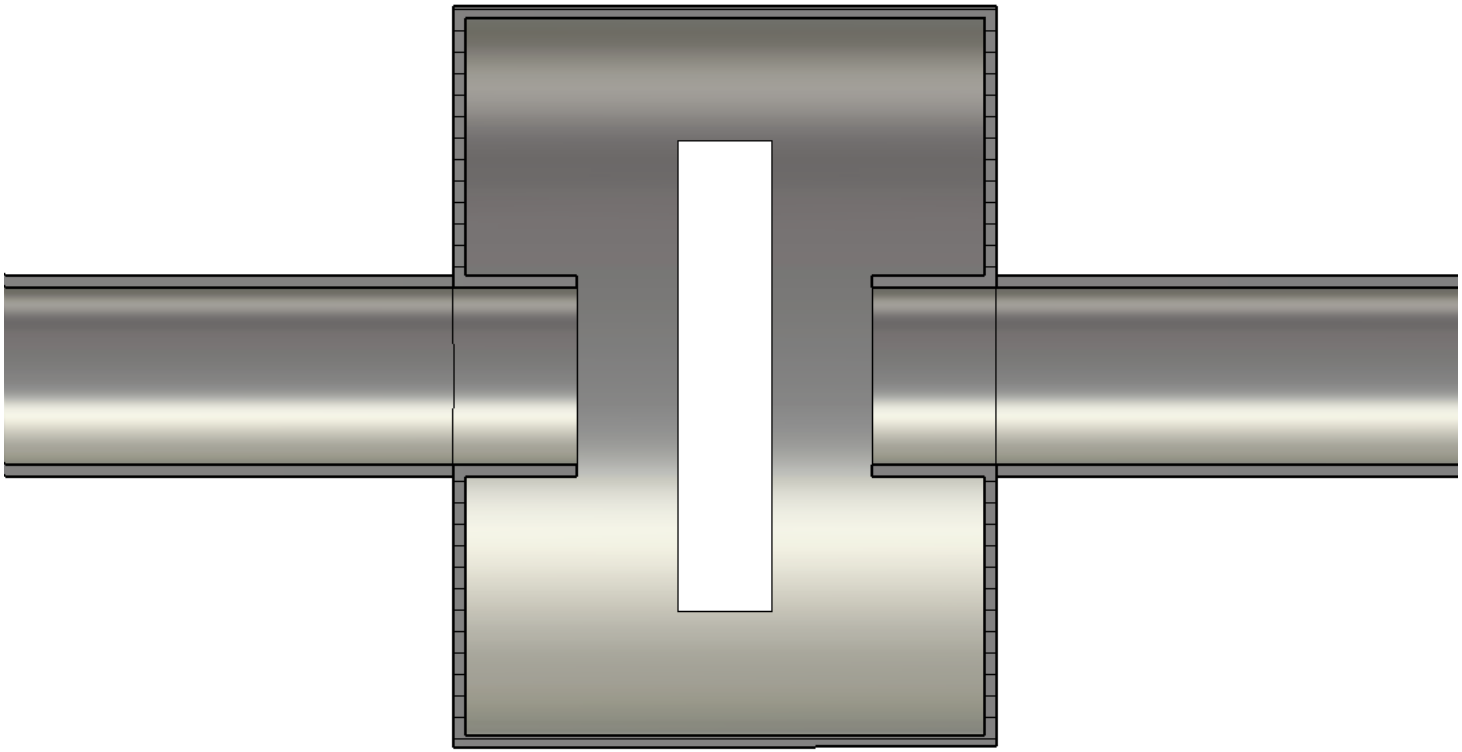
IMP

Geometry of Phase Cavity for Monopole Mode



- Length 44 mm, radius 30.4 mm, gap 25 mm x 1 mm
- R/Q = 248
- Slot Coupling (monopole mode)

Geometry of Phase Cavity for Monopole Mode

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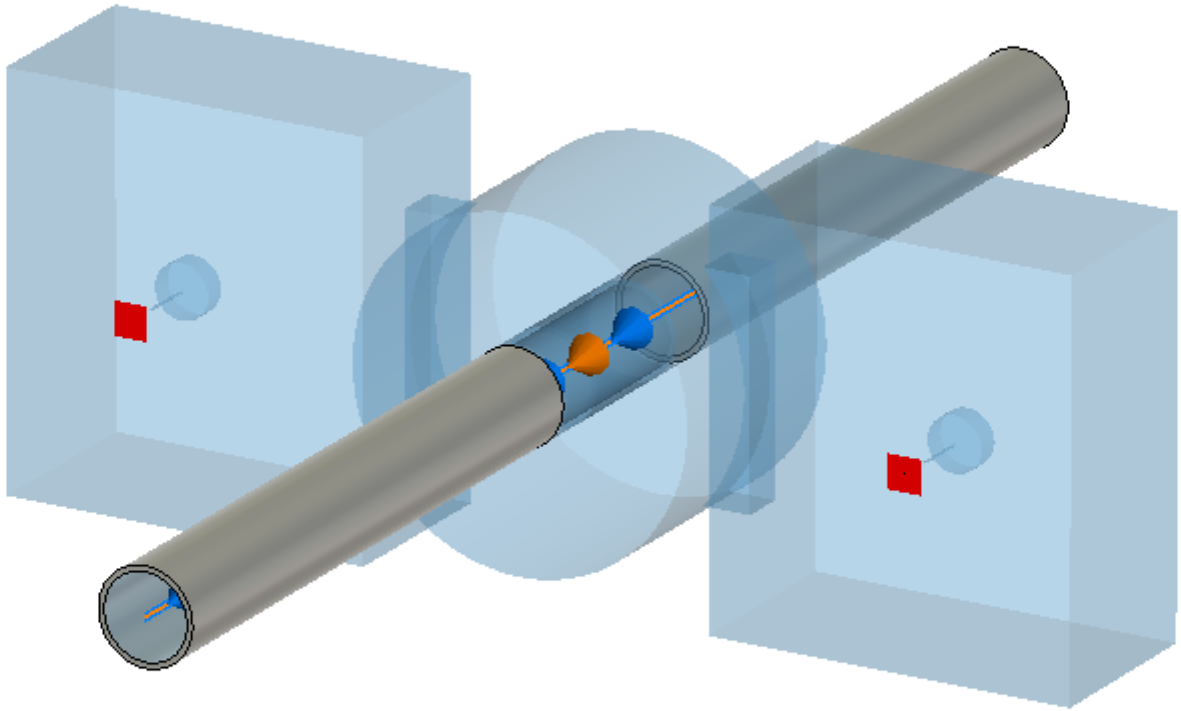
- Slot coupling
- Wg-Coax transition
- Bunch: 100 fC
  - sigma = 20 mm
  - Peak cur. 0.6 mA
  - Z-Wake Imp. 12 kΩ
- Coupling Impedance
  - 550 Ω for 35ns
- Peak-2-peak: 12 mV



- Do these values make any sense?
- Slot coupling versus loop coupling: What do you use, where and why?
- Who does R/Q relate to output voltage in pratice?
- Is the noise behavior depending on coupling strength?

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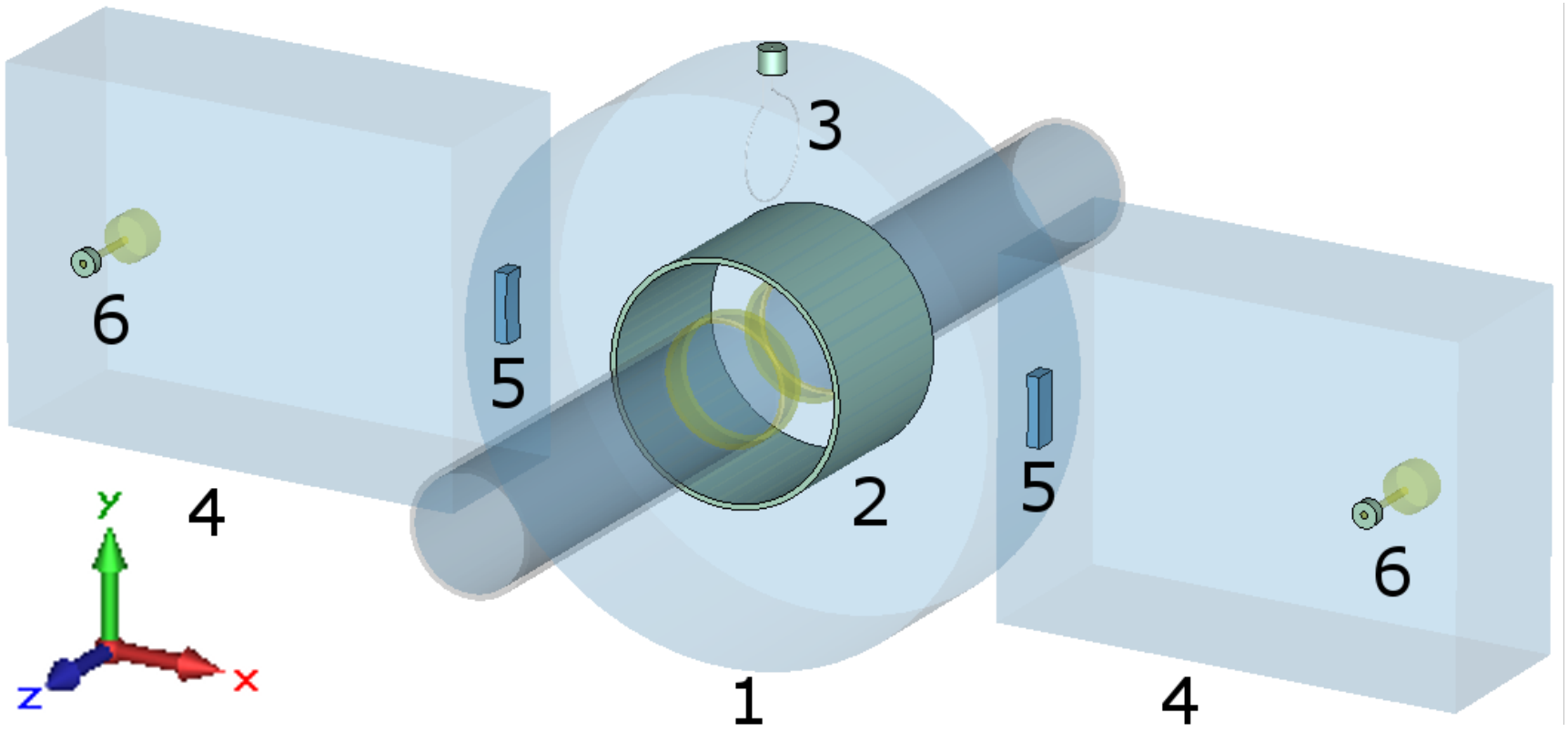
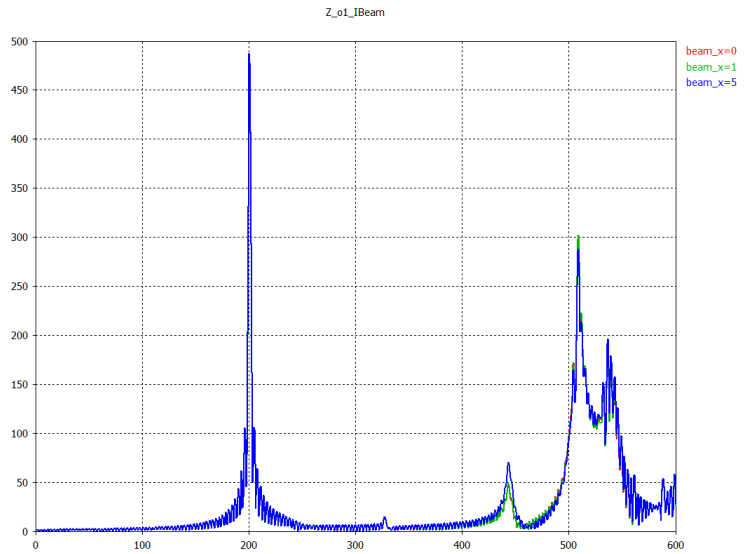
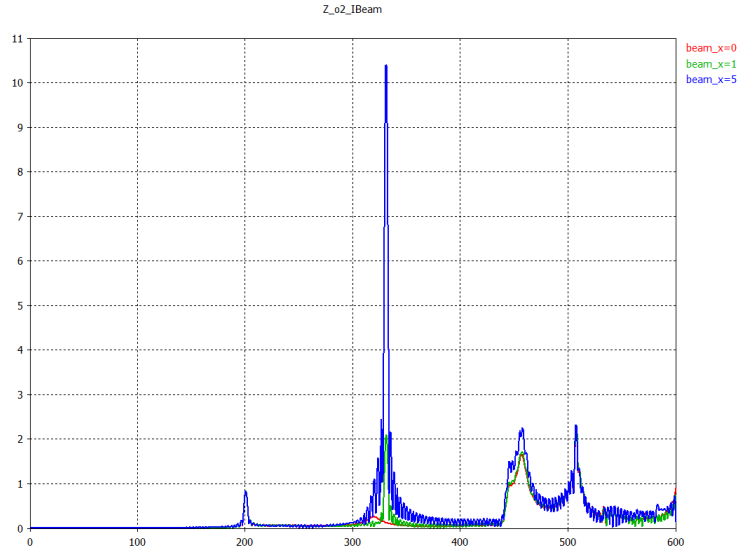
Schottky Sensor Cavity GSI/FAIR



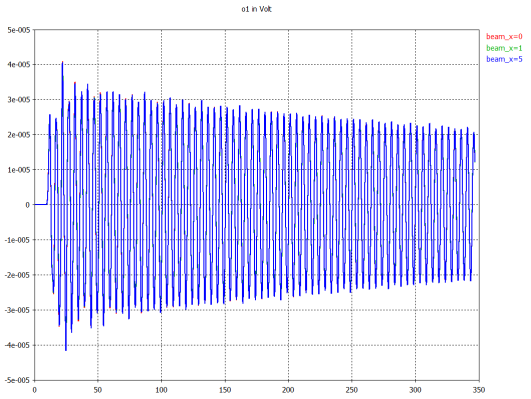
- R/Q:mono 159.20, dipole 0.46@1cm 11.59@5cm

Schottky Sensor Cavity GSI/FAIR





- Coupling Impedance 470 Ω mono vs 10.3 Ω dipole für 5 cm offset



Questions

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- How much output do you get, depending on R/Q?
- How du you optimize your structures?
- Coupling mechanisms Pro/Cons