



Loop / Antenna Couplers

- 1:00 HOM Damper and Filter Design for 56MHz SRF Cavity for RHIC (Qiong Wu)
- 1:20 HOM Damping Properties of Fundamental Power Couplers in the Superconducting Electron Gun of the Energy Recovery LINAC at Brookhaven National Laboratory (Lee. Hammons, BNL)
- 1:40 Capacitive-Antennae HOM Damper (H. Hahn)
- 2:00 New HOM coupler design for High Current Superconducting cavity (Wencan Xu)
- 2:20 Experience with 3.9 GHz loop couplers (Timergali Khabiboulline, FNAL)
- 2:40 Heating of HOM loop couplers in CW mode (Wolfgang Anders, HZB)
- 3:00 Heating in DESY style HOM couplers in cw operation (Jacek Sekutowicz, DESY)
- 3:20 HOM damping variations in SRF cavities (Frank Marhauser, JLAB)
- 3:40 Optimization of HOM Couplers using Different Time Domain Schemes (Carsten Potratz, Uni Rostock)
- 4:00 Computation of Coupler Damping Properties in Concatenated Arrangements (Hans-Walter Glock, Uni Rostock)
- 4:20 Discussion: antenna based HOM damping (all)

Frequency range

- Up to what frequency can we couple HOMs?
- Do we need an additional BB absorber?

HOM power handling/extraction

- What limits the extracted HOM power?
- What is the maximum power we can extract?
- What heat load do we expect to 2 K/4K/80 K?

Measure/simulated Q values vs. frequency

- Monopole, dipole, quadrupole modes
- Required number and orientation required for dipole/quadrupole mode damping
- Designs for DESY, TJNAF, BNL, KEK

Suppression of coupling to the fundamental

- What are the thermal limitations, i.e. how high can the CW field be?
- How do we fix the problem?
 - Filter design
 - High thermal conductivity feedthrough
 - Heat intercepts for cables
 - Cooling in the helium tank ...
- How do we reliably tune many filters?
- Is retuning required?

Filling Factor

- How much real estate is required
- FF of loop coupler damped system (v. undamped cavity)
- Can one set of loop couplers be used for two adjacent cavities?

Cleanliness

- How do we clean the loop couplers effectively after cavity production?
- How do we remove chemical residue (e.g., sulphur after EP)?

Mechanical/reliability issues

- Experience with existing systems (SNS, 3.9 GHz, HERA, JLAB 12 GeV)
- Can we predict MP in loop couplers?
- How do we prevent mechanical failure when MP does occur?

Cost

- Cost per loop coupler? How does this compare with other systems?
- Do we need an Nb tip
- Should the power be dissipated in or outside the vacuum vessel?

Coupler Kicks?

Conclusions

- Machines for which loop couplers are an attractive option
- Configuration required for these