



Discussion of the waveguide HOM damping

- **Effectiveness of HOM damping frequency range**
 - Frequency range
 - Coupling to high frequency modes
 - Number of waveguides per cavity required
 - Measured/simulated HOM Q's vs frequency: JLab designs and results, BBU simulation results (?)
- **Power handling and extraction**
 - Heat load to 2 K and all other intercept temperatures at full HOM power
 - Fundamental mode power coupling
- **Cleanness challenges and solutions**
 - Cleaning of waveguide sections
 - Clean assembly of waveguides outside 80 K envelope
- **Linac fill factor with waveguide dampers**



Discussion (cont'd)

- Mechanical / fabrication challenges and solutions
- Cost vs. design and material choices
 - Superconducting or normal conducting waveguide sections
 - Number of waveguides per cavity
 - Length of waveguide section
 - Absorber inside or outside of vacuum vessel?
 - Water cooling vs. cryogenics; risks involved
 - Temperature of loads at end of waveguides
 - Shielding of IR radiation from warm load
 - Water cooling and mechanical cavity vibrations
- Other challenges, limitations and solutions