

Analytical Calculation of Radiation in a Side Coupled mm-Wave Accelerating Structure for Electrons, M. FILTZ, TU Berlin - After the proposal of a planar muffin-tin cavity structure for mm-wave accelerators three years ago, many calculations were done using both, analytical methods and numerical codes like MAFIA and GdfidL. Applying mode matching technique, a double sided muffin-tin as well as open structures of a single chain of cavities were analysed. The present paper gives an extension of this analysis to side coupled cavity arrangements consisting of a chain of acceleration cells and a chain of coupling cells. Dispersion diagrams and shunt impedances are given and compared to existing numerical results.