Design of Input and Output Cavities for a Planar Sheet Beam Klystron, W. BRUNS, S. SOLYGA, TU Berlin - The in- and output cavities for a sheet beam klystron are designed. The fundamental mode has an almost ideally flat field. This field flatness is achieved by inductive loading at the transverse ends. The cavities are suited for construction with LIGA, since they are planar and of equal depth. Due to the field flatness, the frequencies of the higher order modes are extremely near to the frequency of the fundamental mode. These frequencies are shifted by cutting small slits into the cavity walls, leading to an anisotropic conductivity. The coupling of a inhomogeneous sheet beam to these cavity modes is simulated by a finite difference program which has been adjusted to calculate the wakes of a beam with finite transverse extension.