Impedance of Rectangular Slots in a Round Coaxial Tube, T. SCHOLZ, TU-BERLIN - For the LHC liner the impedance of small slots has to be known. A computer code based on mode matching technique is applied to get results valid over the whole frequency domain for the real and imaginary part of the impedance. For low frequencies the values calculated with this code agree very well with the results from Bethe hole coupling, for example the asymptotic behaviour of the imaginary part of the longitudinal impedance for a narrow slot versus the length of this slot. The range of validity of the Bethe hole coupling is investigated, especially due to the cut-off frequency of the tube and the length of the holes. The configuration of the slots is varied to minimize the impedance in the range below cut-off as well as above cut-off. As a special part of resonances the so called trapped modes are discussed.