Calculation of Transverse Resistive Impedance for Vacuum Chambers with Arbitrary Cross Sections, M. KARLINER, N. MITYANINA, D. MYAKISHEV, V. YAKOVLEV, Budker, INP - Considering the resistive in stability of betatron oscillations of an multibunch beam in the storage ring, one can see that the growth rate of the most unstable oscillation mode is mainly determined by the transverse resistive impedance at the most dangerous frequency. This frequency is $\omega_{dang} = \omega_0 (1-\nu')$, where ω_0 is a beam revolution frequency and ν' is the fractional part of the betatron tune ν. At very low frequency, the skin depth can be sufficiently big to be of order or even more than the vacuum chamber walls thickness, therefore, the model of infinitely thick walls for the surface impedance can not be applied for the transverse impedance calculation. A computer code for calculating the electromagnetic field of an issue - a dipole current - in the vacuum chamber with lossy walls of arbitrary geometry was used for dipole ohmic losses calculations. These losses determine the actual transverse resistive impedance in approach of a stationary current.