

**About One Possible Explanation of Existence of Microwave Magnetic Field in Superconducting Waveguide System, A.N. DIDENKO, MEPI** - It is known that at high level microwave power quality factor of accelerating waveguide system is decreasing. The paper shows that one possible explanation of that phenomenon is influence of microwave magnetic field on resistance of superconducting material. From that point of view critical strength of microwave magnetic field depends only on such fundamental characteristics as Fermi velocity and free path of electrons. The existing experimental results are in good agreement with theoretical consideration.