

Opportunity of Development of Niobium Coated Copper Cavity, N.I. BALALYKIN et al., JINR - The explanation of non quadratic losses in NbCu cavity is proposed. It is based on appearance of the mobile vortices into the working layer when the magnetic RF amplitude is large than the first critical field (B_{c1}). This explanation is in a good agreement with the well-known results as on frequency, and on amplitude dependence of the non quadratic losses. The vortices penetration time calculated by the known experimental results has turned out to be much less than the RF field period. The obtained results of the B_{c1} measurements of the magnetron sputtered Nb films are in a good agreement with the well-known limit of the amplitude independence of the NbCu cavity Q-value. The shielding ability superconducting sublayer with higher T_c is analyzed. Opportunitie increases Q0-value by sputter deposit of the NbN shielding layer are discussed.