

# Vortex nucleation in type I superconducting layer covering type II superconductor

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Within the framework of the Ginzburg-Landau model, it has been shown that in a composite system consisting of type I and type II superconductors with a large coherence length difference  $\xi_I \gg \xi_{II}$ , Abrikosov vortices may appear in the type I superconductor as superconductivity is restored upon decreasing the magnetic field. The vortices enter the type I superconductor through its boundary with the vacuum and reach the boundary with the type II superconductor, which is in the Meissner state. We have found conditions under which the chain of vortices can exist at the I/II interface even at zero magnetic field.