

DIRTY JOSEPHSON JUNCTIONS  
WITH INCOMPLETE BARRIER TRANSPARENCY

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S u m m a r y

The spatial behavior of the order parameter near the interface in a superconductor—insulator—superconductor (SIS) tunnel junction, provided that the impurity concentration in superconductors is arbitrary, has been investigated theoretically. The temperature is assumed to be close to the critical one. The transmission coefficient  $D$  of the barrier for electrons may vary in a wide range of values. The boundary conditions for the order parameter and the expression for the equilibrium current density have been obtained.