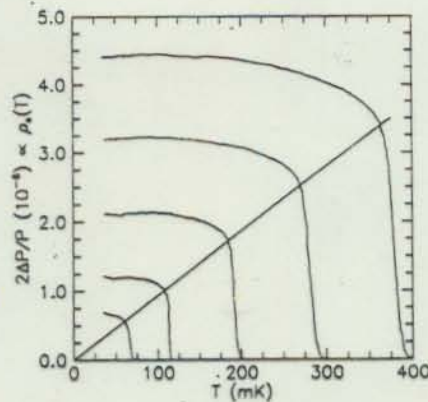


Kosterlitz-Thouless Transition

Superfluid density

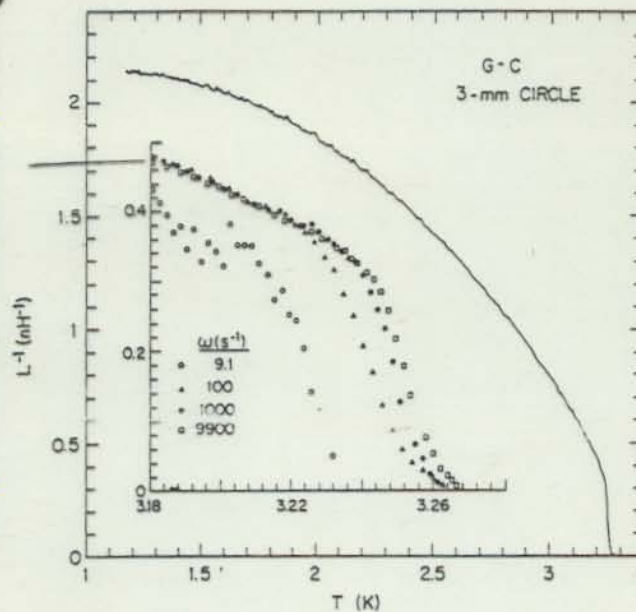


superfluid
 ^4He films

G. Agnolet (1989)

FIGURE B.2: Superfluid area density ρ_s of ^4He films of various thickness versus temperature T . The straight line marks the location of the universal jump according to Eq. (B.29). Taken from [6].

Superfluid density



In/InOx
Superconducting
Films

Fiory + Hebard

FIG. 4. Inverse kinetic inductance vs temperature for circular film sample G-C at $\omega = 10^3 \text{ s}^{-1}$ (solid curve). Inset: dependence near the transition at given frequencies.

$$n_{S20}^*(T_{KT}) = \frac{2m^*k_B}{\pi\hbar^2} T_{KT}$$

IV Curves at the Kosterlitz-Thouless Transition

$V \sim I^{a(T)}$

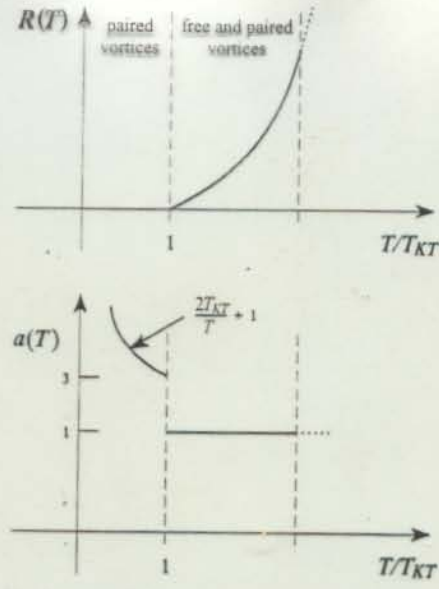
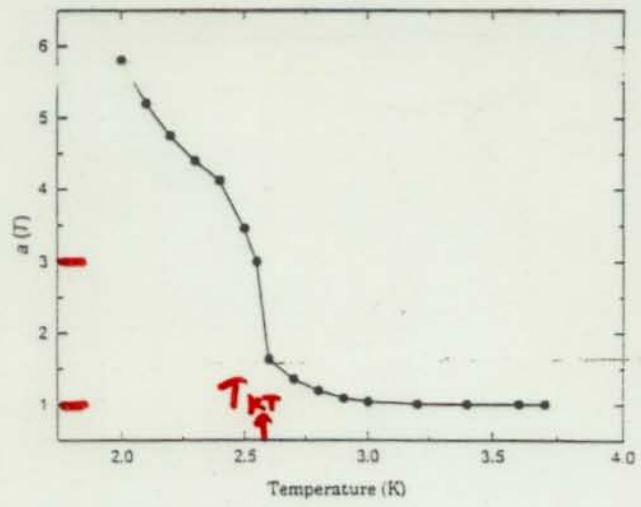
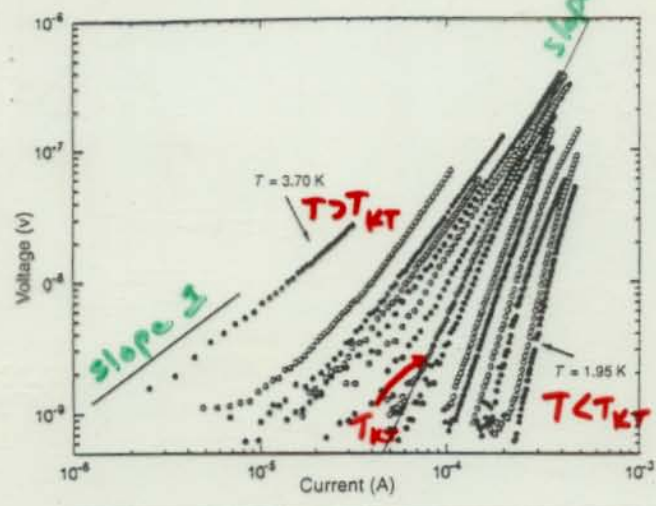


FIG. 23. Schematic drawing of $R(T)$ (the array resistance) and $a(T)$ (the IV exponent) as function of the temperature in the low current limit. $R(T)$ varies with temperature according to Eq. (5.6); $a(T)$ varies according to Eq. (5.18).

2D Josephson Junction Array



S. Herbert (1992)

FIG. 24. (a) Current-voltage characteristic curves for a square array of niobium crosses on a gold underlayer (see Fig. 10). (From Ref. 39, Fig. 2(a).) (b) The power-law exponent $a(T)$ versus T for the data in (a).