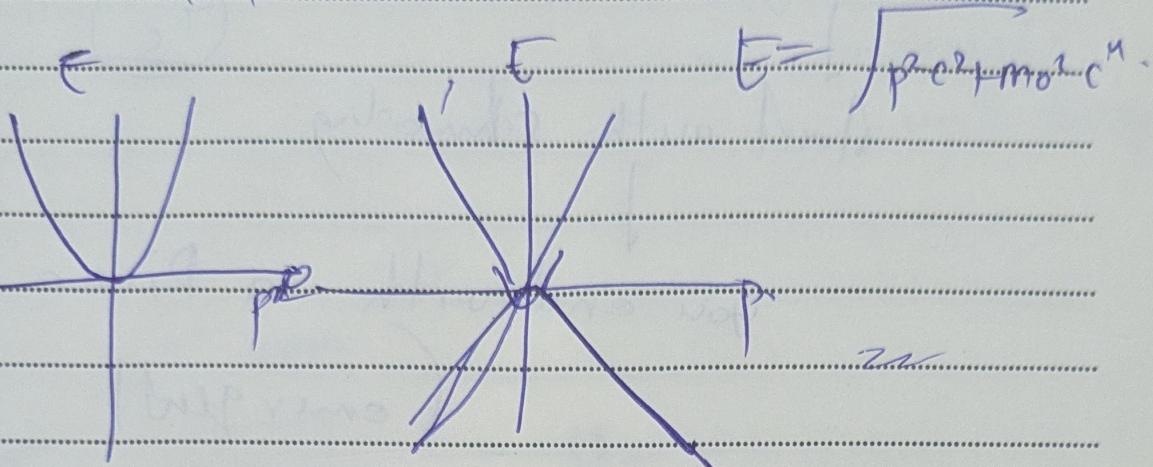


Brooks Pal ICMP

11

Electron inc'd.

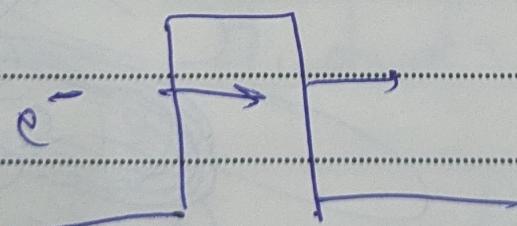


zoomed out
version

e⁻ behaving as a relativistic
particle inside the 2D
graphene (single
layer)

kin Tunneling

100% Transmissio



relativistic means

linear rel means $E = \sqrt{p^2 c^2 + m^2 c^4}$

(if $P \rightarrow$ much much greater) $E = \frac{\text{shape}}{+}$

25 meV

graphene

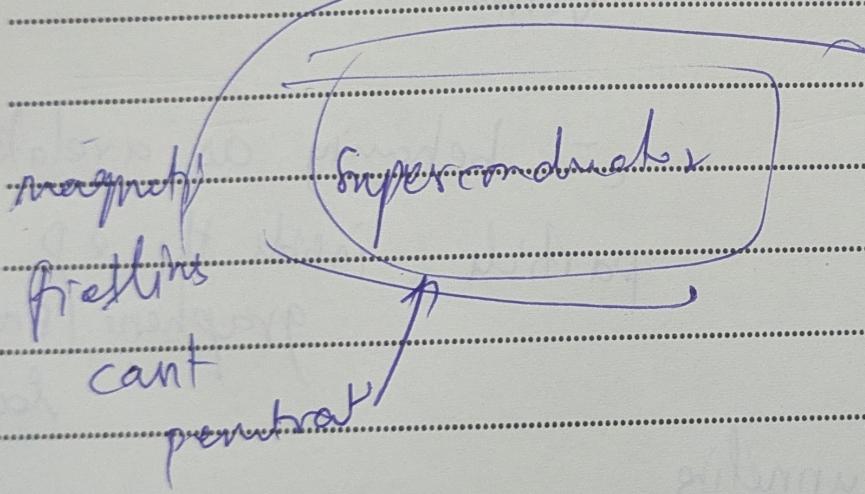


start with schrodinger

you end with a Dirac

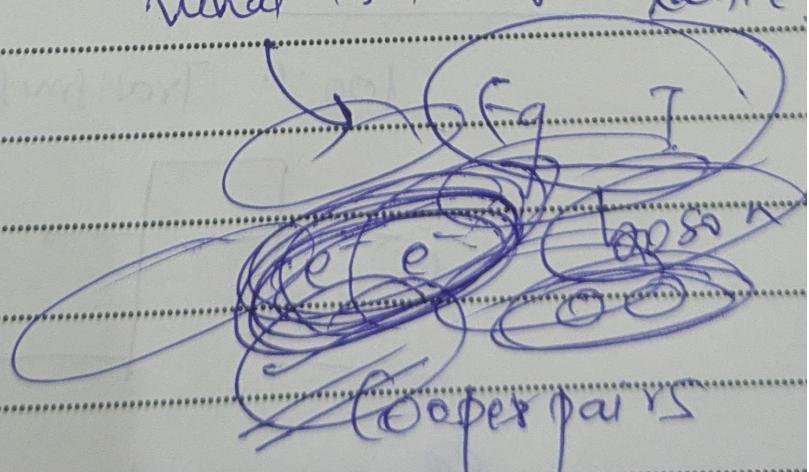
(emergent)

meiner off



what is the effect lattice?

ϕ



e - become bosons

shape

DOF reduces in Cooper pair :-

as concerned
with transport

$\langle e^- \text{ wave} \rangle$

~~But~~ $\psi =$
~~if~~ 2 particle: $\psi_1(r_1)\psi_2(r_2) - \psi_1(r_2)\psi_2(r_1)$
for n particle $\rightarrow n^2$ term.

Superconductor

$$\psi = \Delta e^{ik}$$

~~as only 1 parameter~~

term.

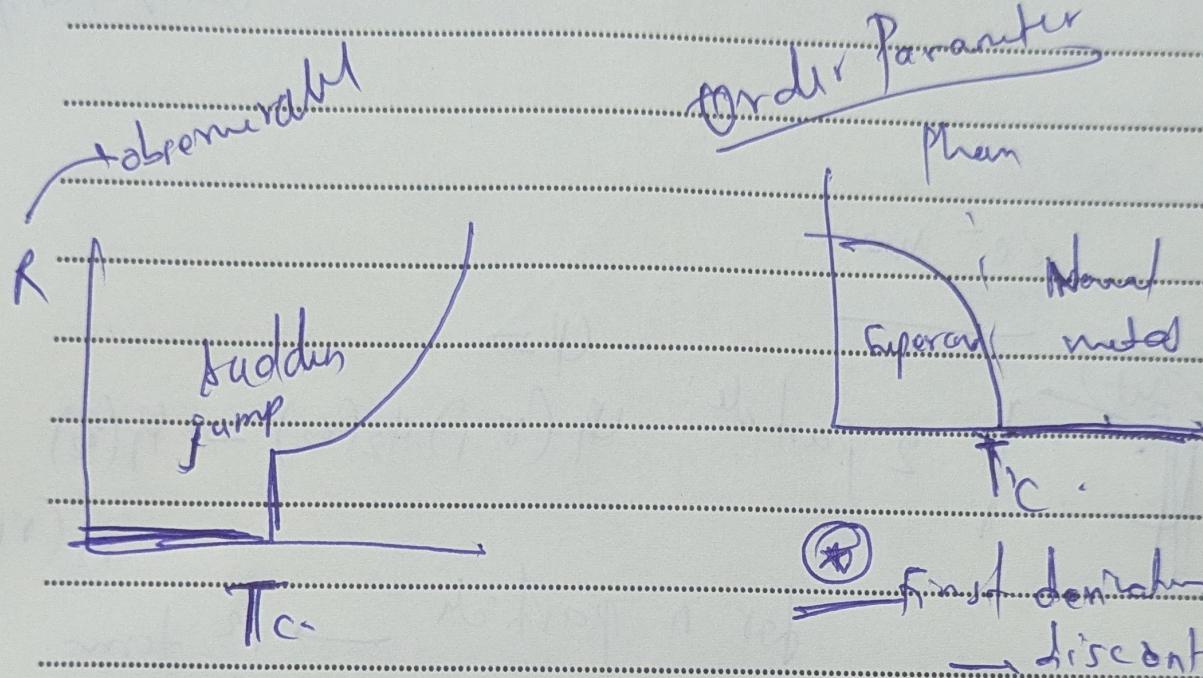
fluctuation of superconductor

Conventional/BCS superconductor

(like the fluctuation of pressure but)

$T_c \rightarrow 0 \text{ K} \rightarrow$ used in modern.
 \rightarrow (not follow ~~shape~~)

order
Parameter



2nd order phase transition.

(ice \rightarrow water) Sudden
PM 56°

observable
order parameter
: density.

O.P.: distinguish a phase & phase transition

shape