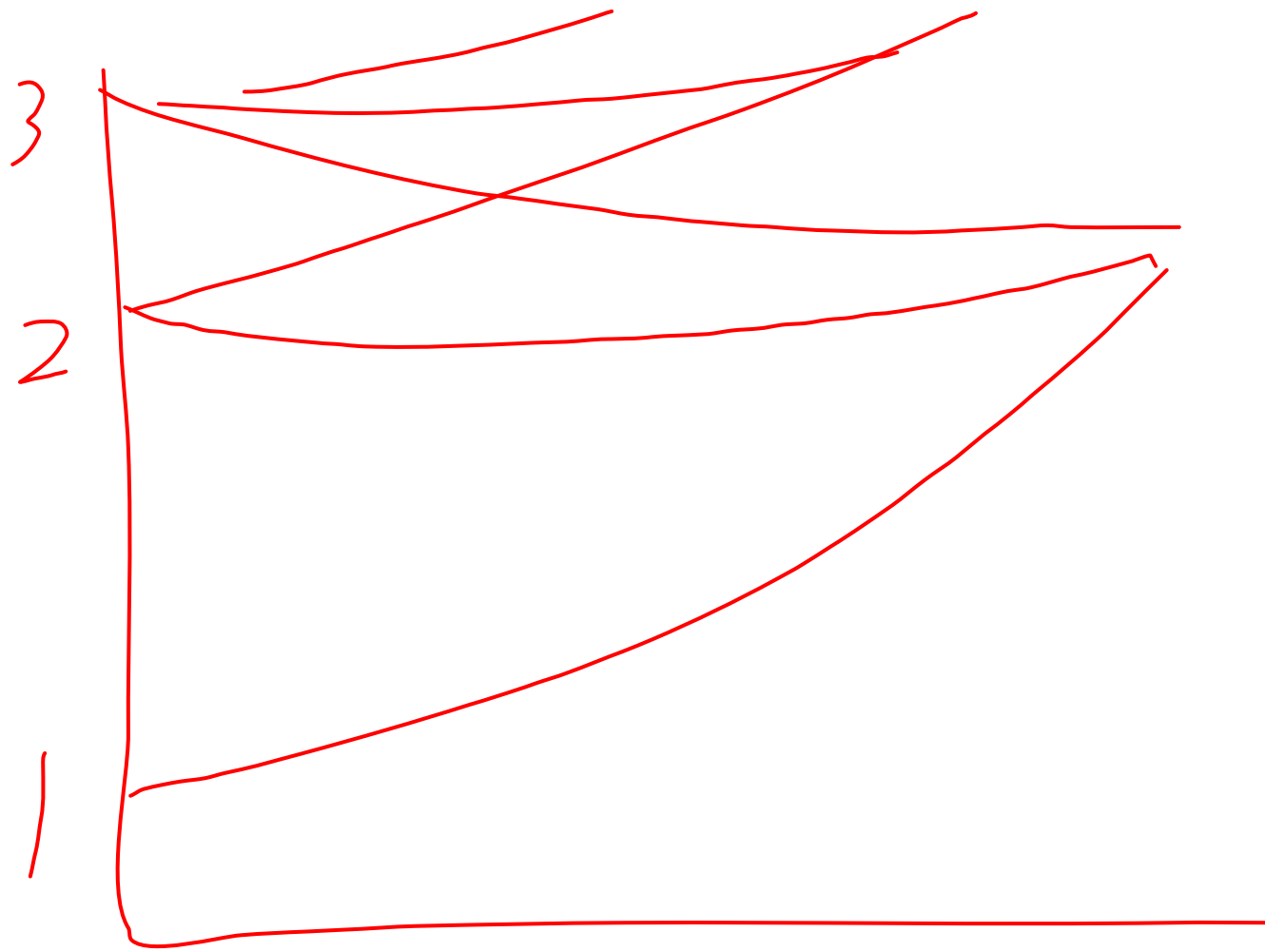
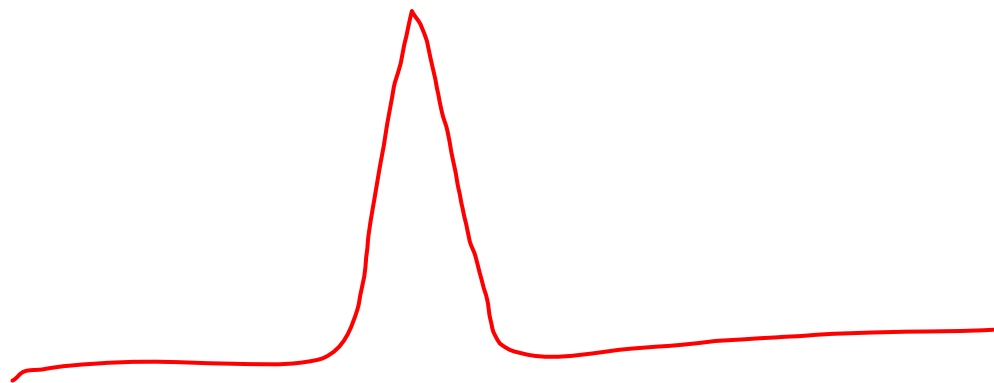


{ Vertical QD
Lateral QD



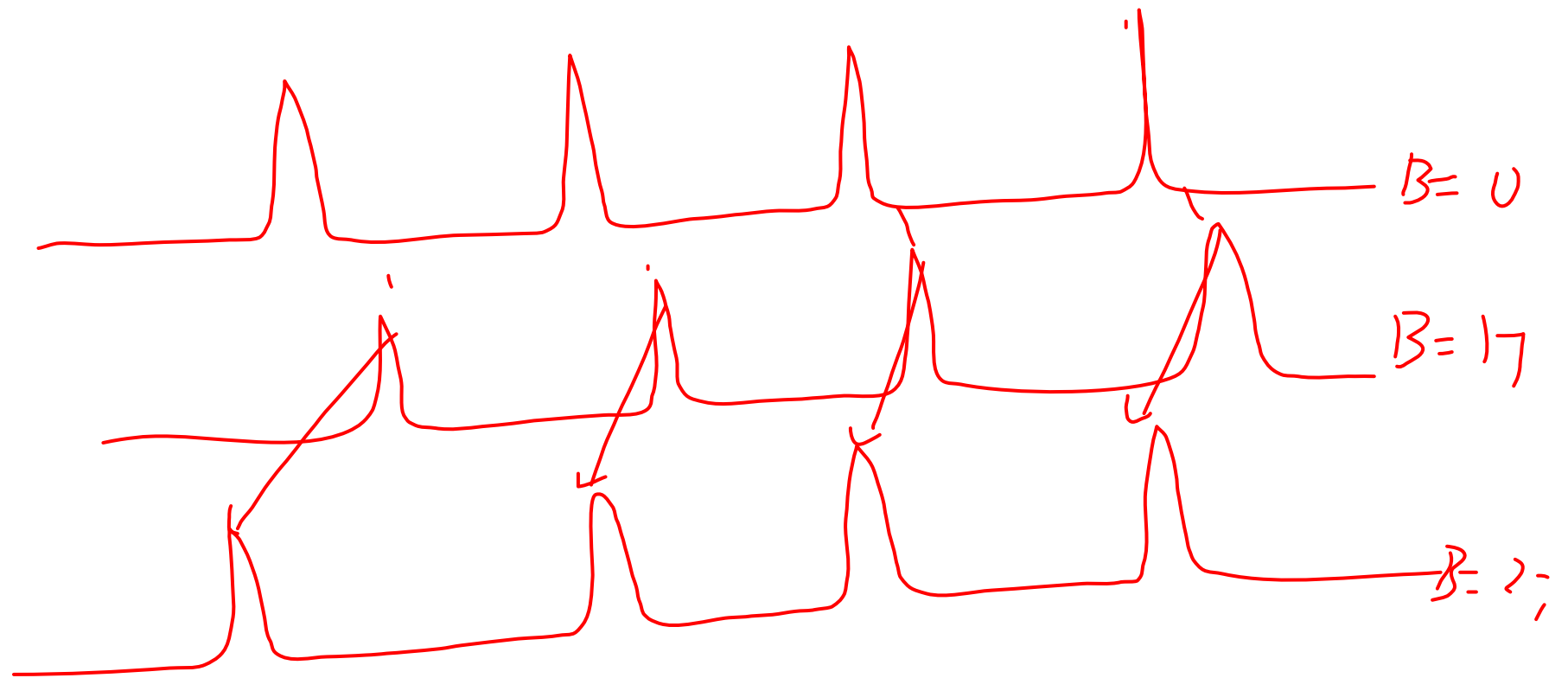




resonances 共振

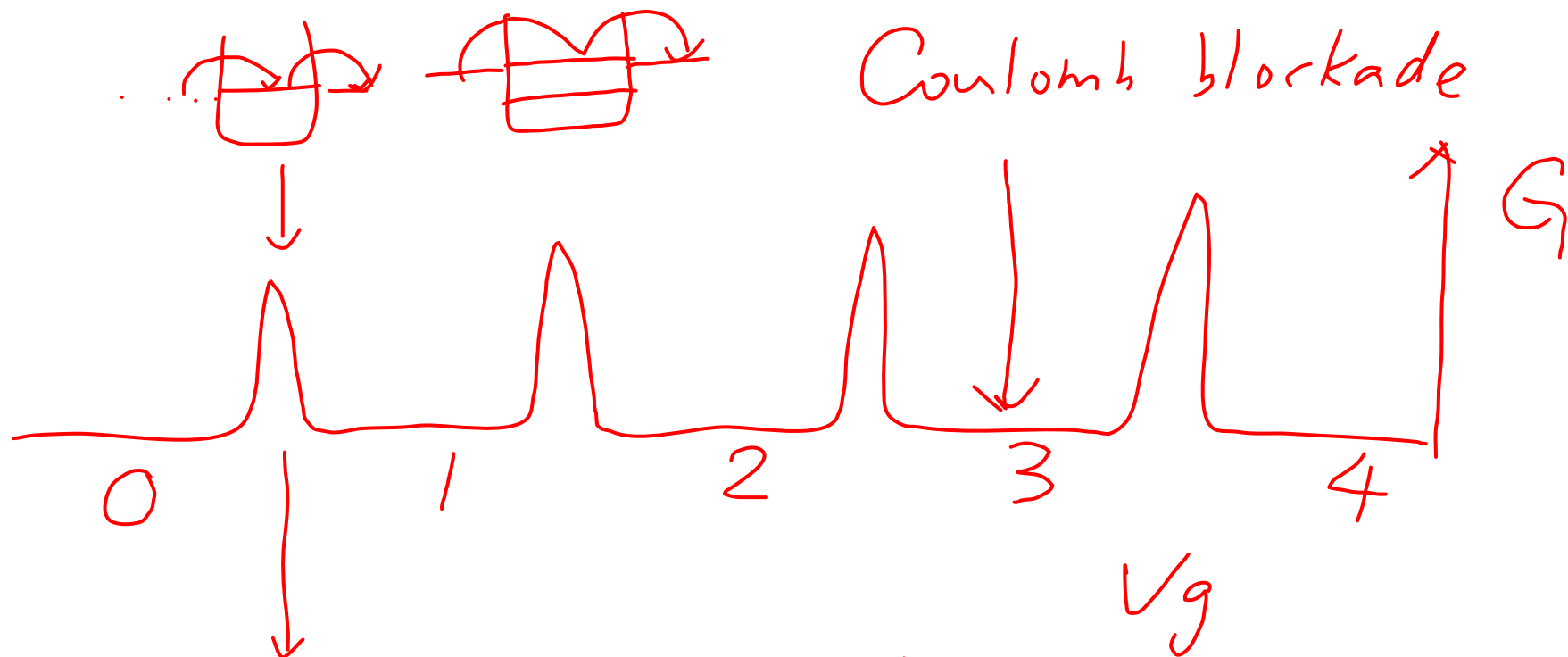


sharp ones



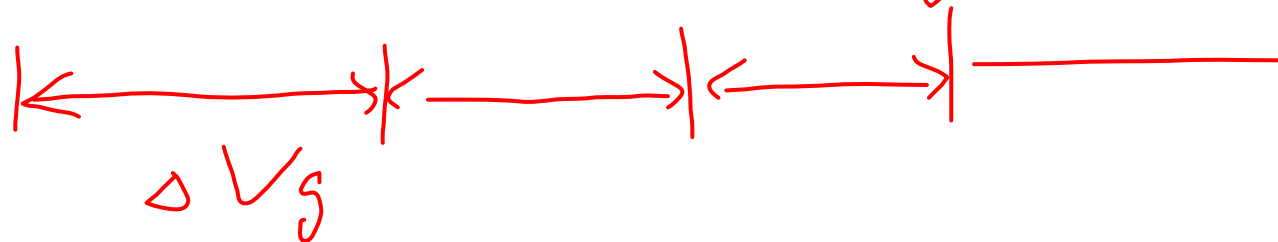
Peak Position as a function
of B

{ Coulomb charging
Single-particle energy spectrum

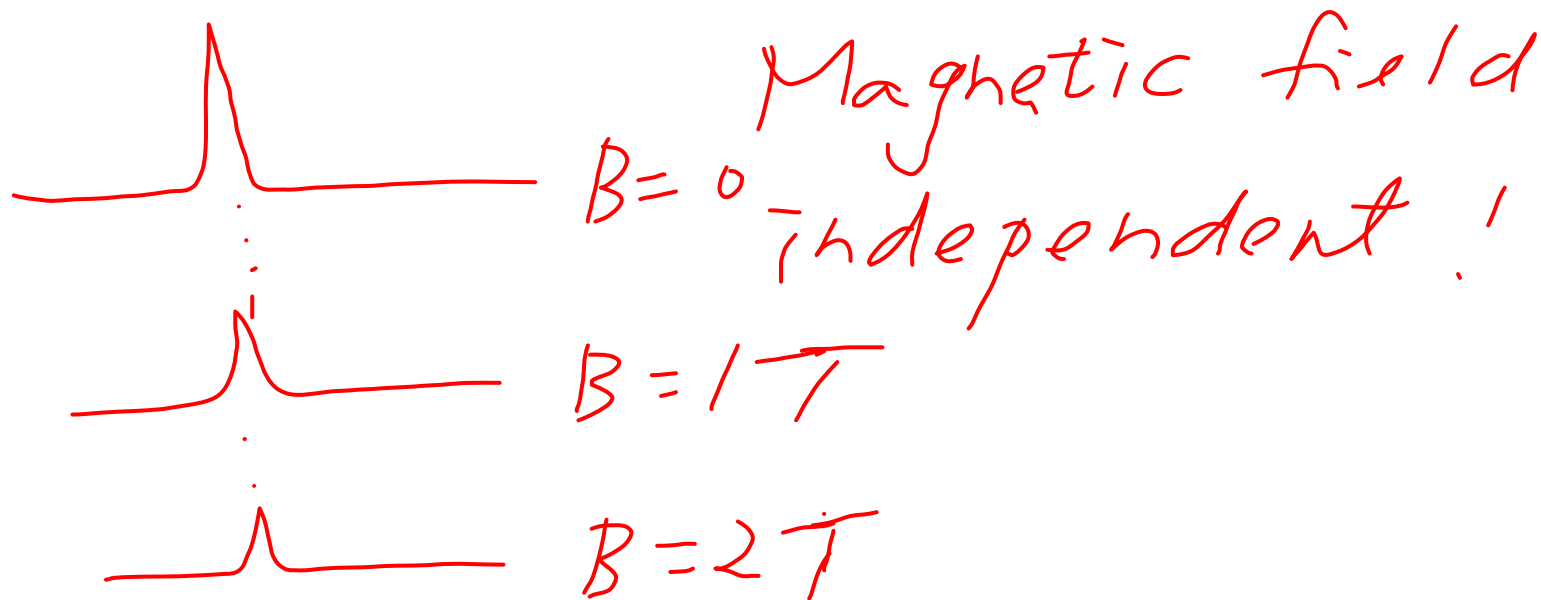


Single electron tunneling

(SET) $\Delta V_g = \frac{e}{C_g}$



Classical CB $\frac{1}{2} \hbar \omega$



$$N \rightarrow N+1$$

$$E_N \sim E_{N+1}$$

$$\cancel{E_{N+1}}$$

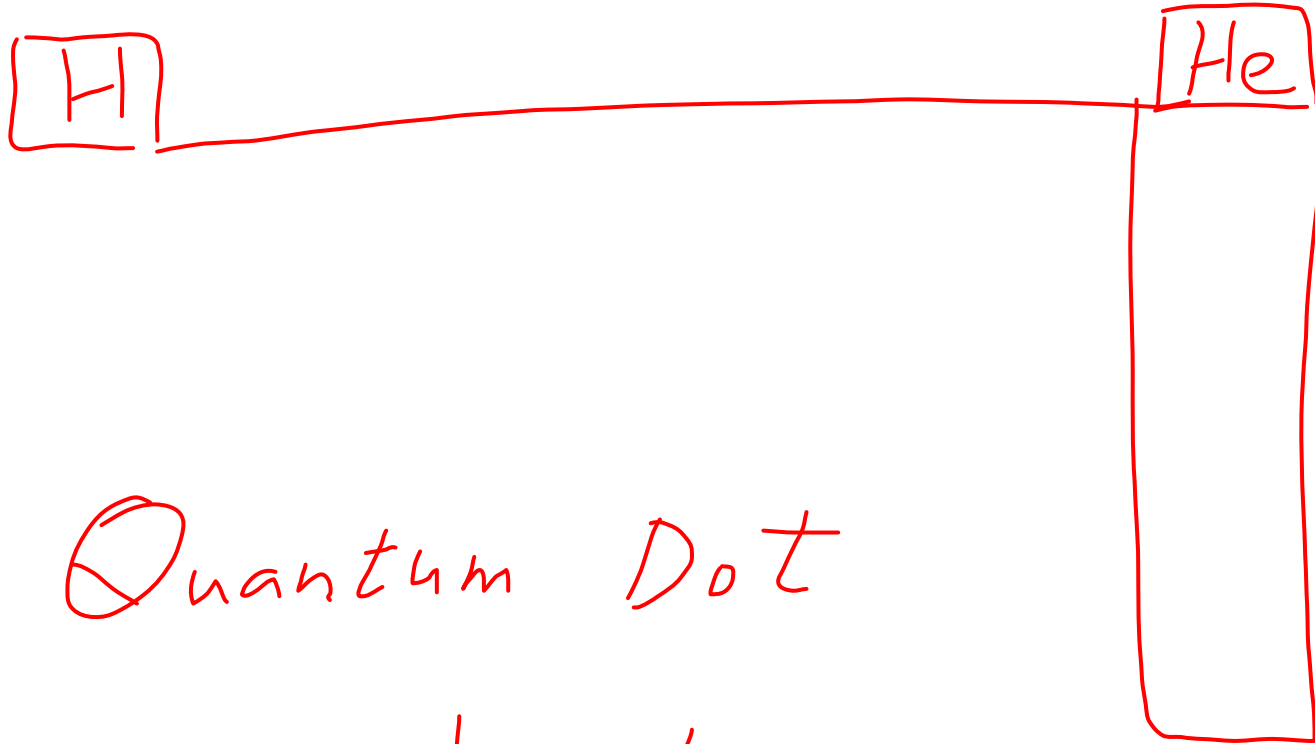
Constant interaction (CI)

+
eigen spectrum



B-dependent

Magic number



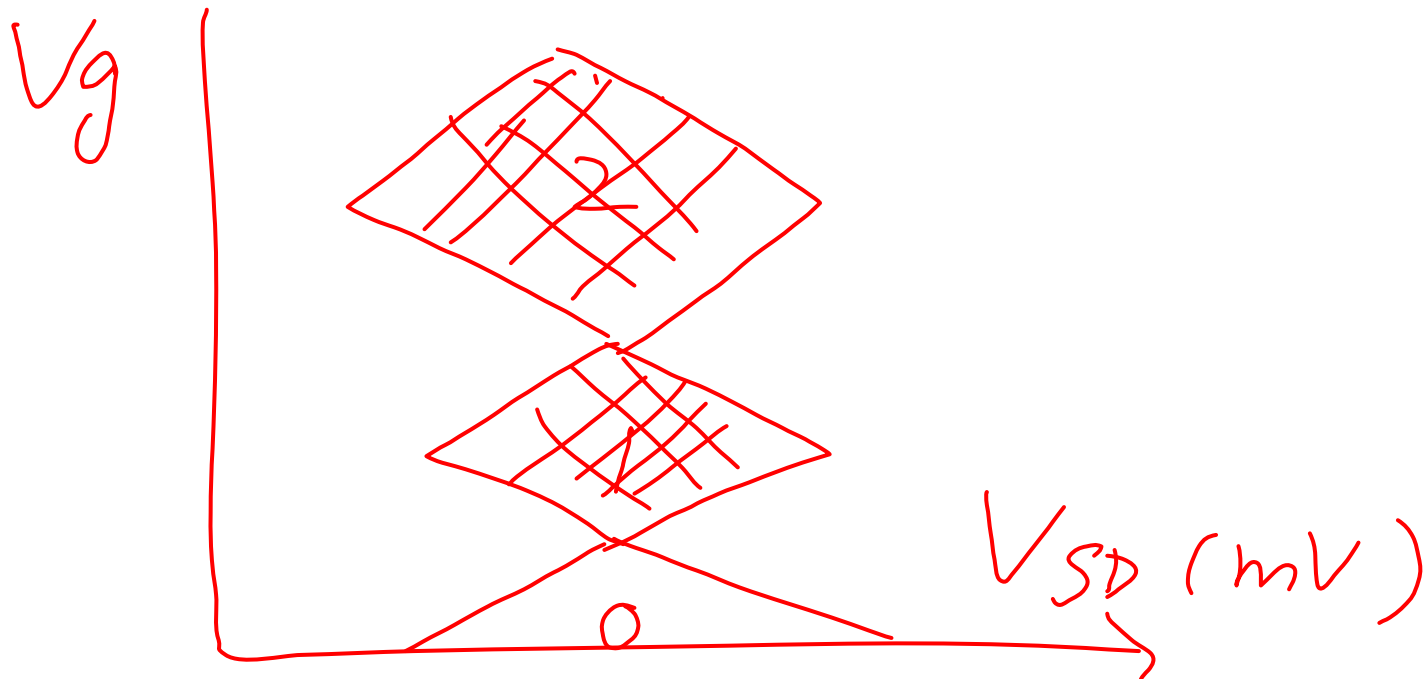
Quantum Dot

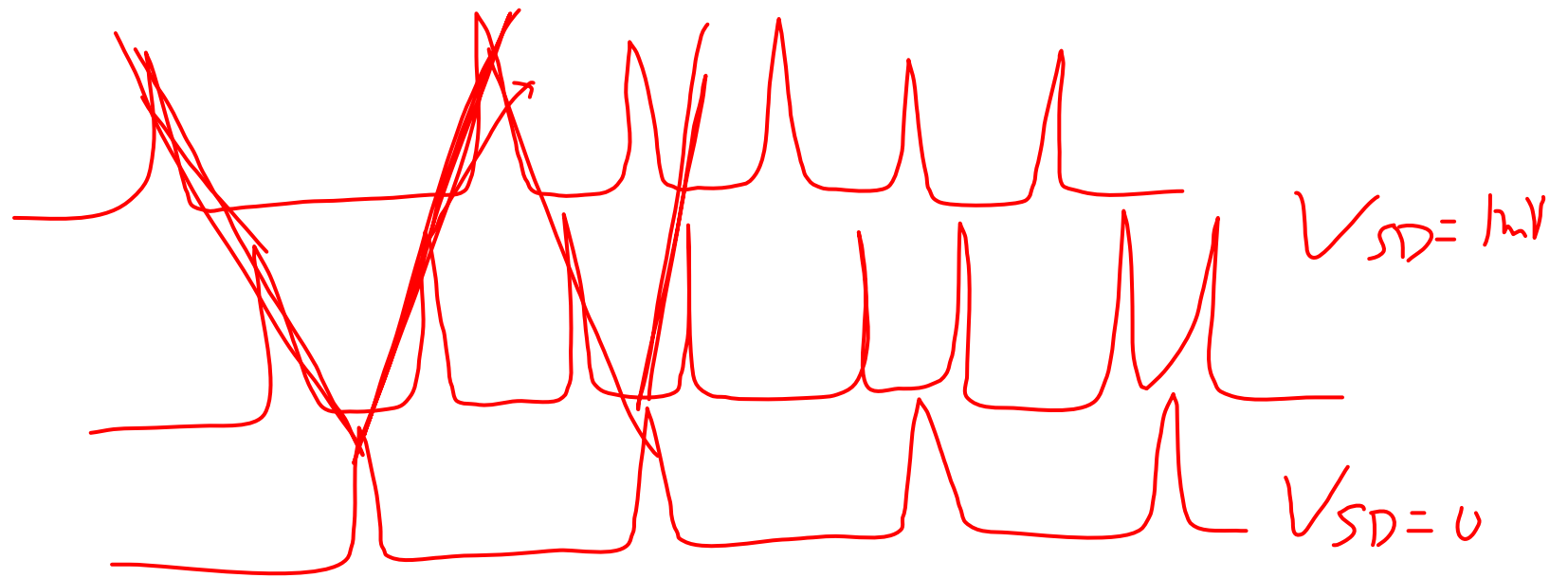
Artificial atom

Chemistry

2, 8, 18, 36.

Number of electrons within the diamond is fixed



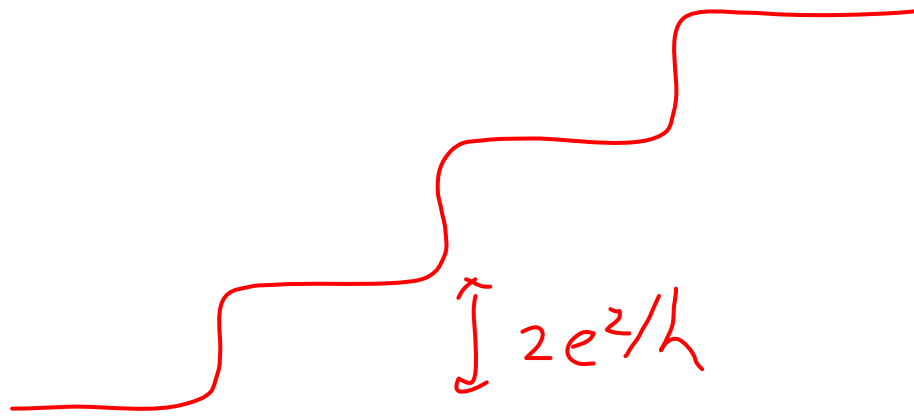


In Fig. 8.10

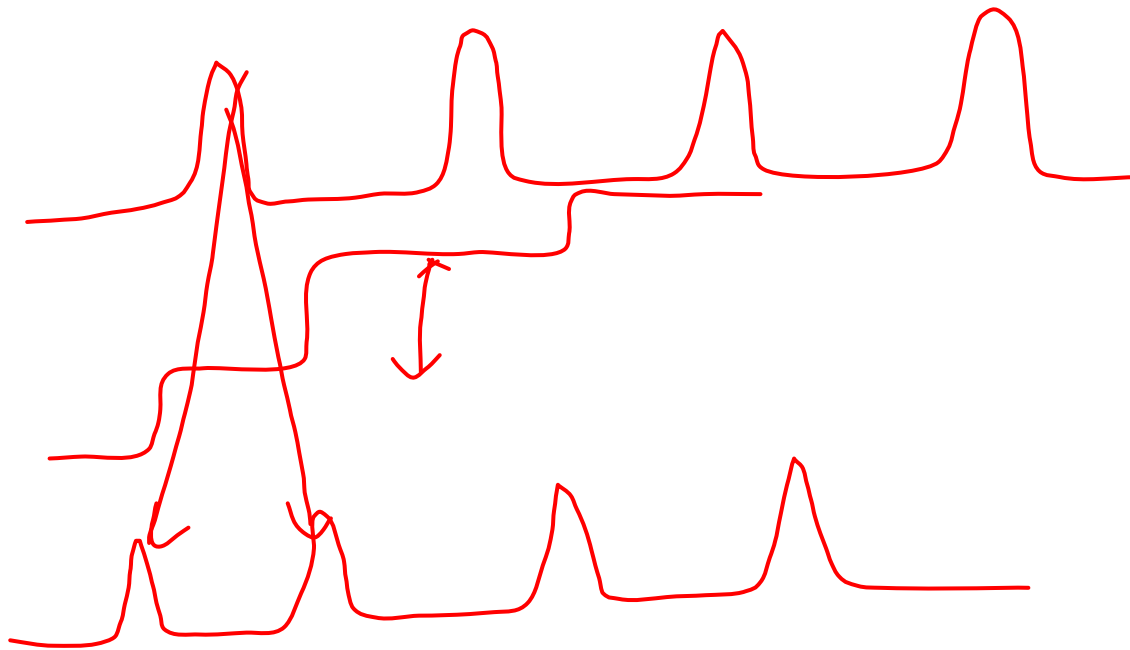
Blue regions correspond to

low $G(0)$

$$\text{energy} = \boxed{eV_{SD}}$$

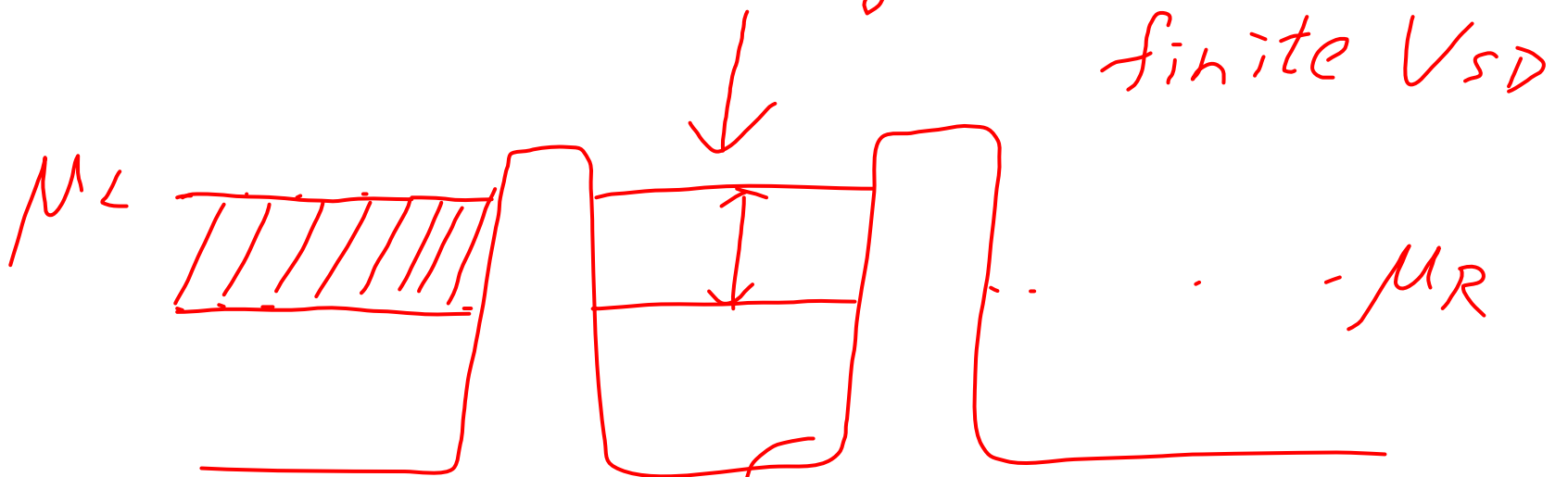
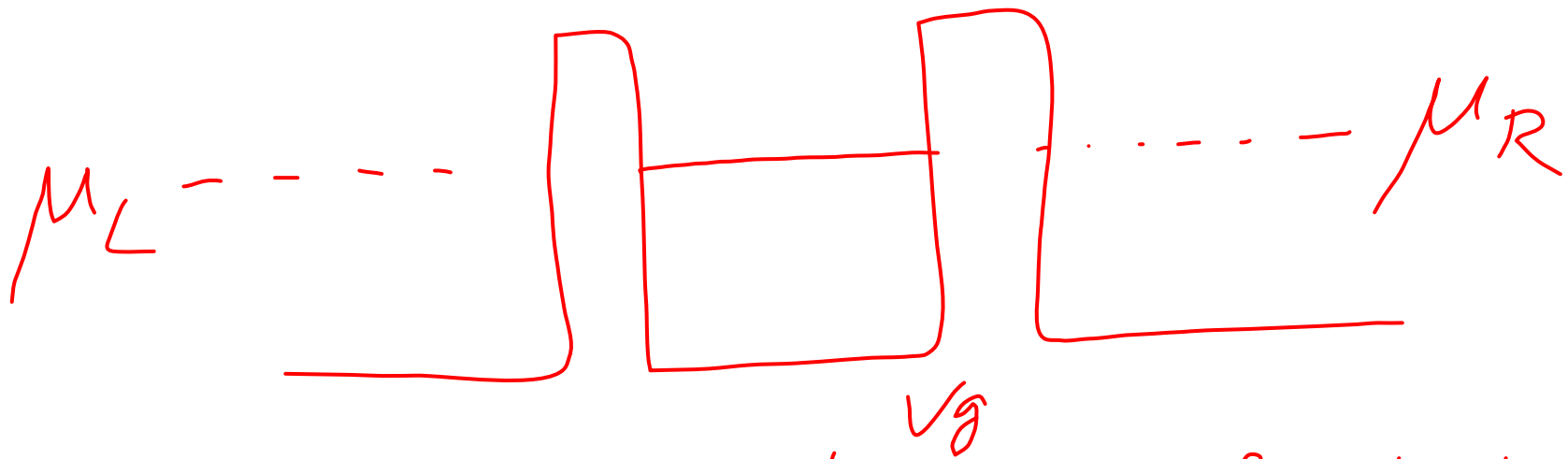


G



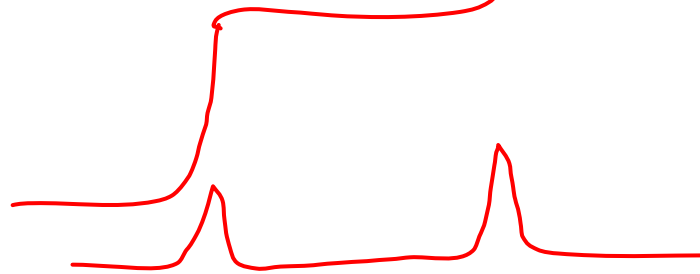
$\frac{dG}{dV_{SG}}$

I_D

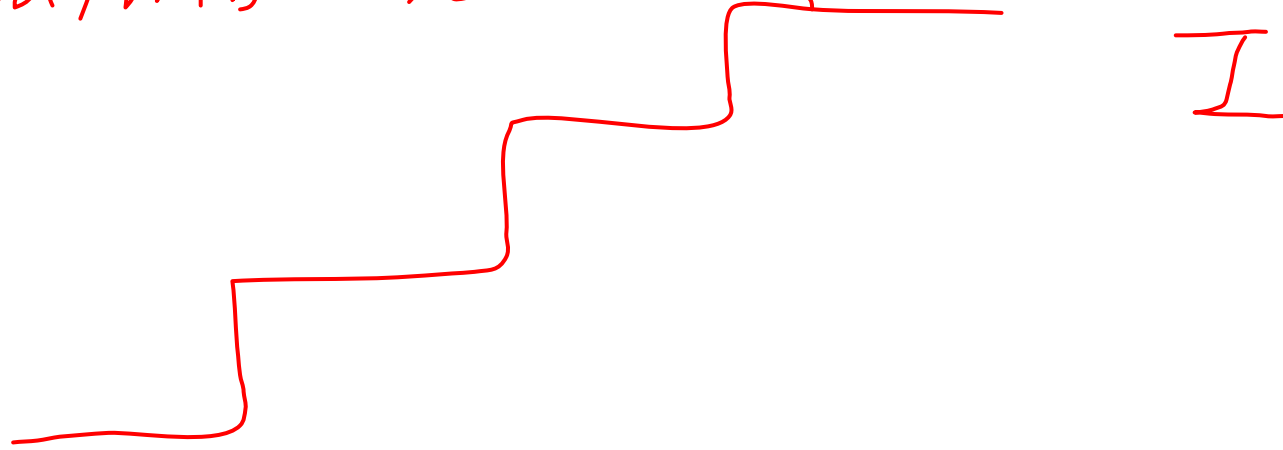


$$G = \frac{dI}{dV}$$

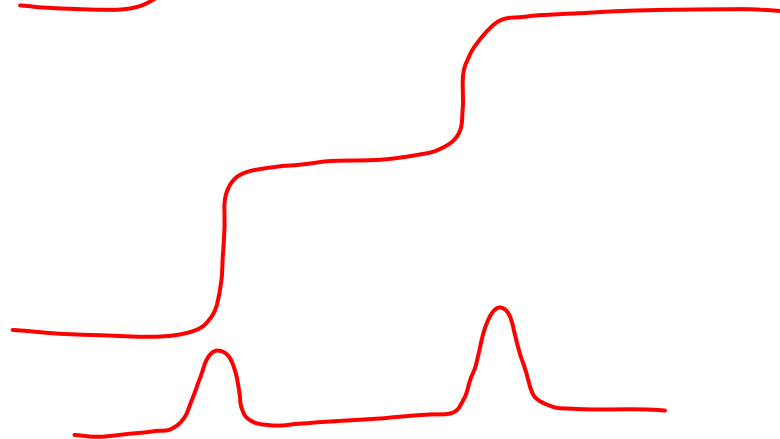
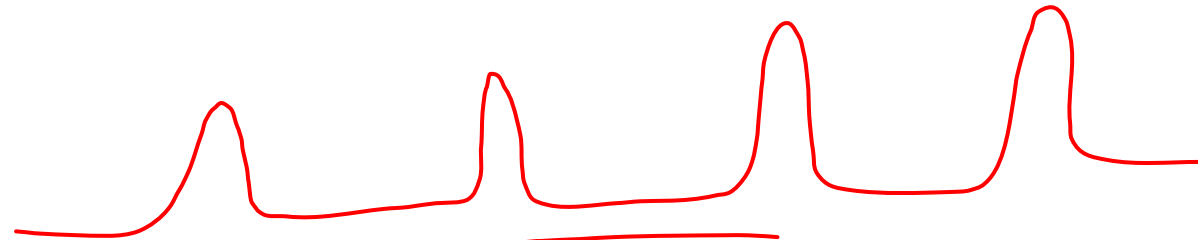
Some current



Coulomb staircase

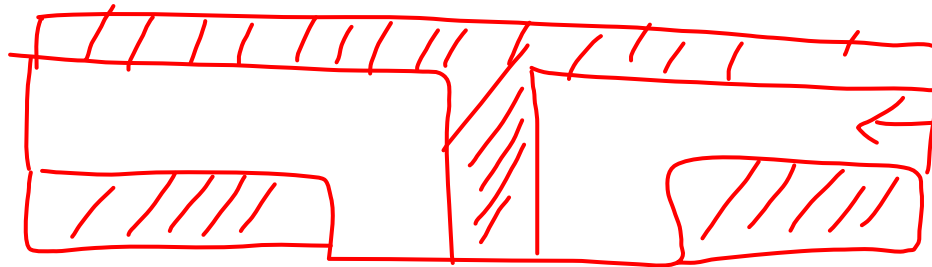


$$G = \frac{dI}{dV}$$



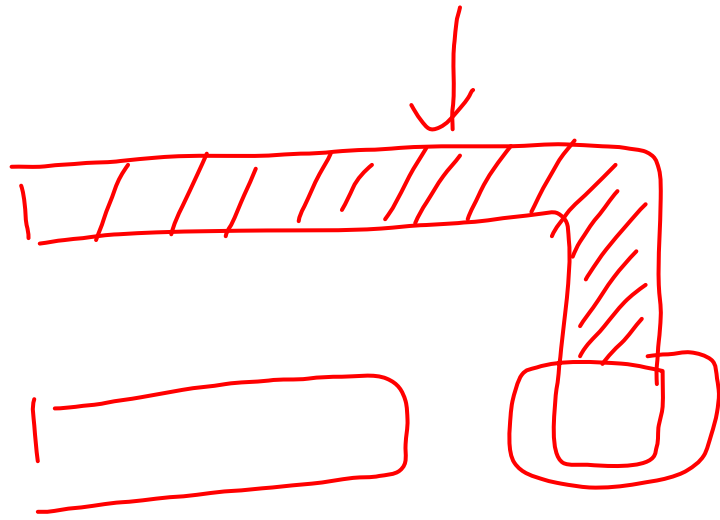


PMMA

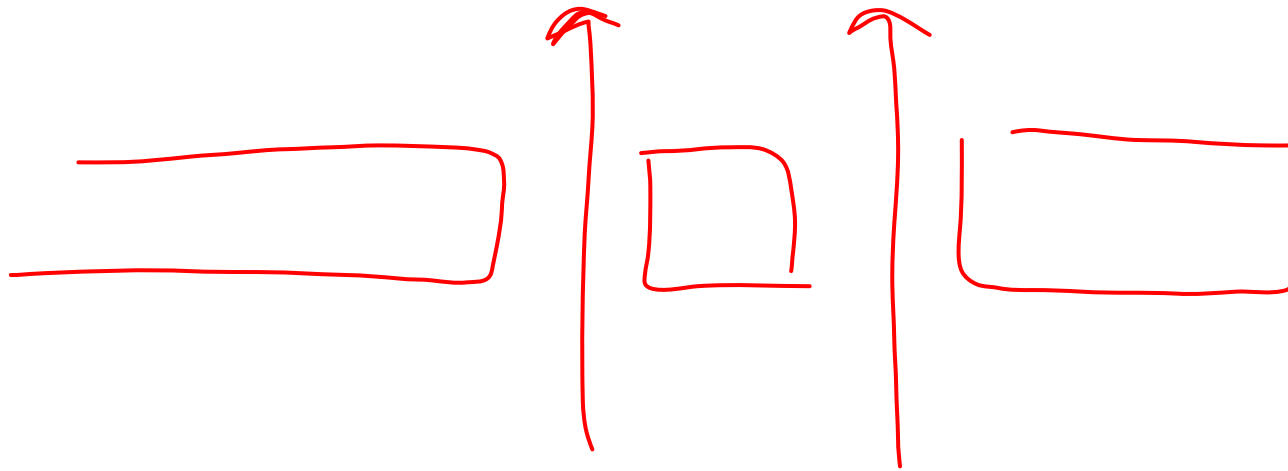
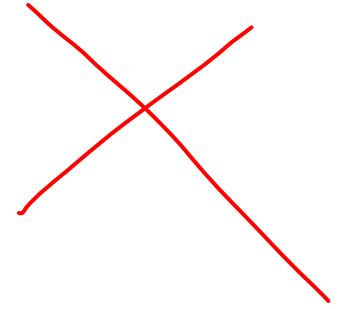


Xlinked
PMMA

↑
middle bit



Same layer



Final Exam:

4:30 - 6:20 pm

Monday the 11th of

January, 20/0

{ English Dictionary
{ Calculator ✓

