

$$\text{Streuquerschnitt} = \pi \text{ Streulaenge}^2$$

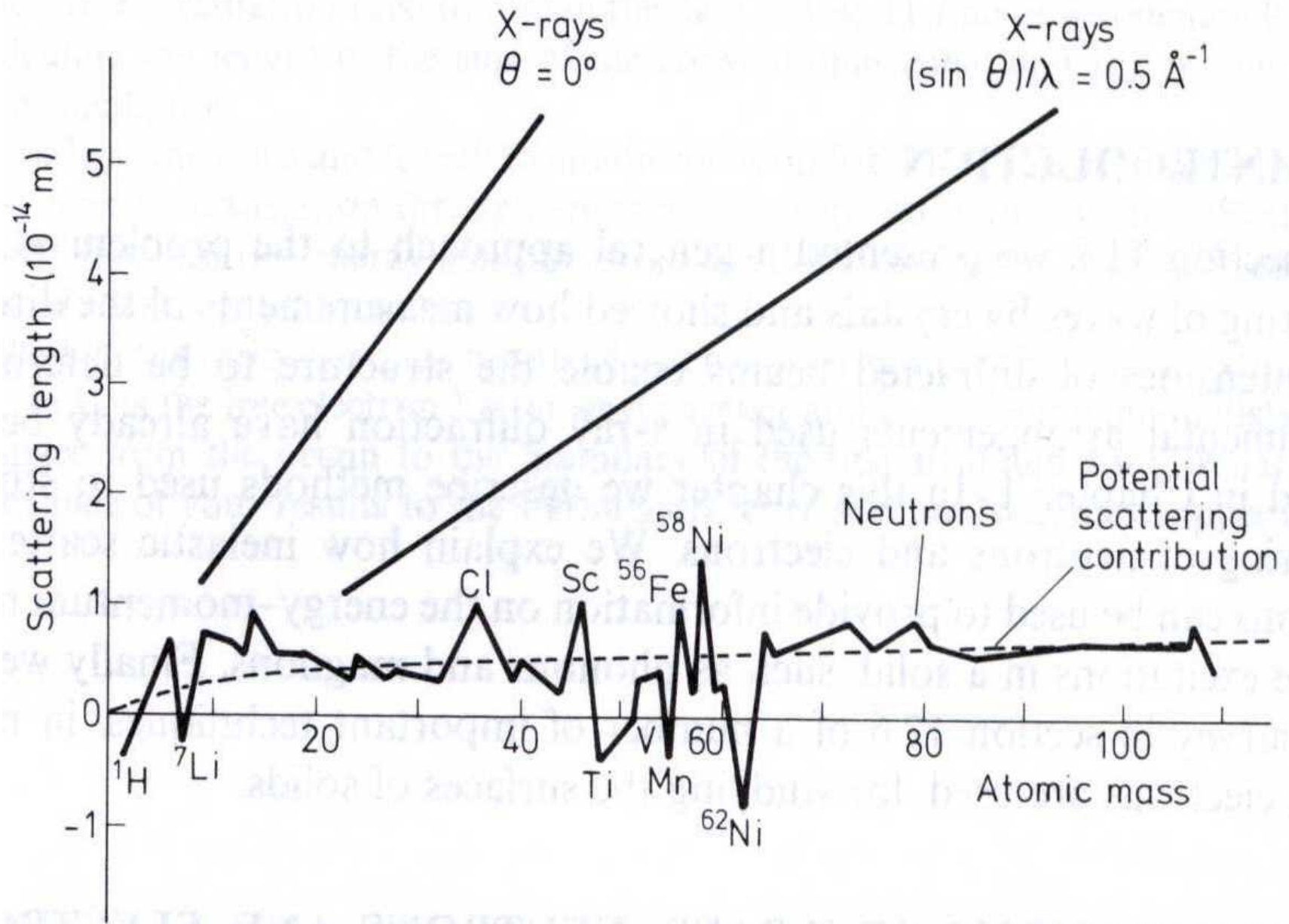


Fig. 2-9

Neutronflugzeitspektrum umgerechnet in deBroglie-Wellenlaenge
Streuung an Siliziumpulver
bei festem Winkel ergibt das direkt d/n

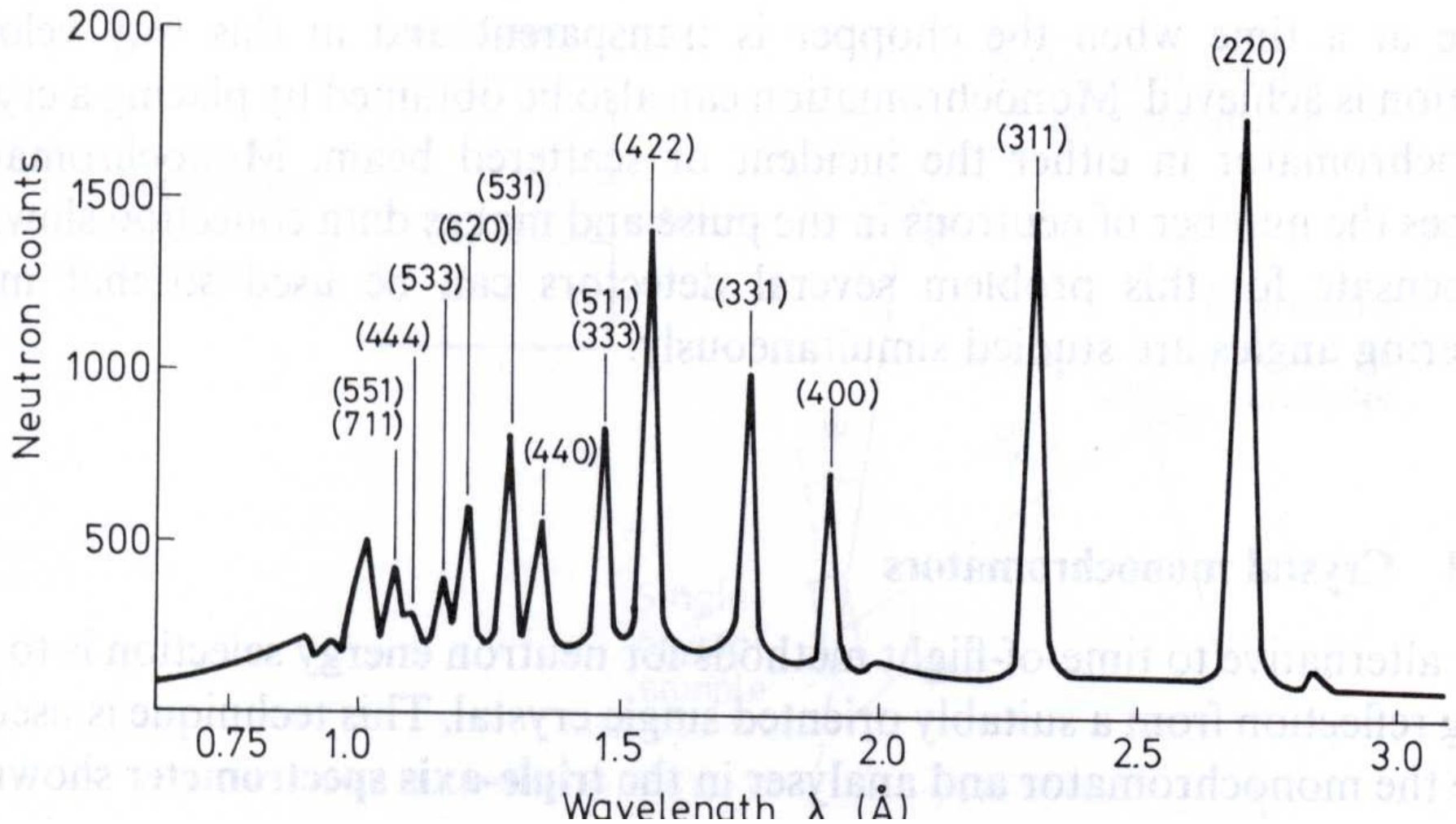
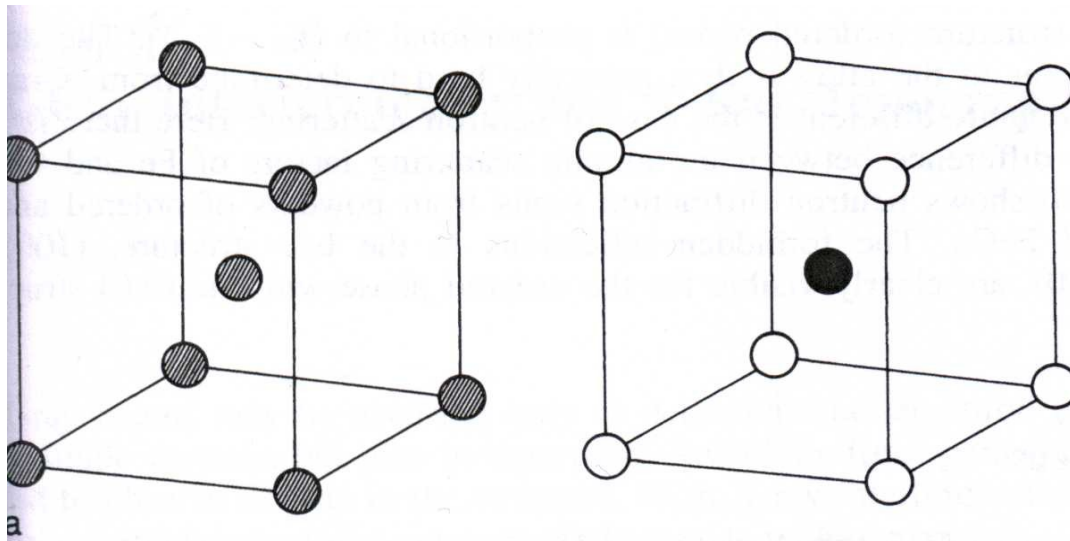
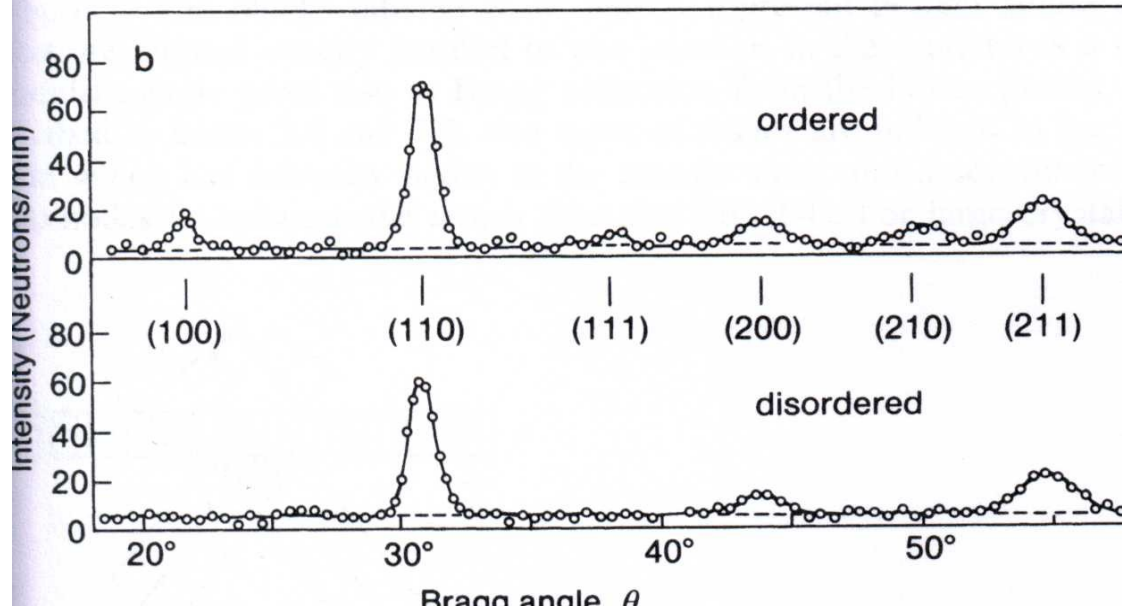


Fig. 2-10



○ Atom A ● Atom B
 ● Atom A or B

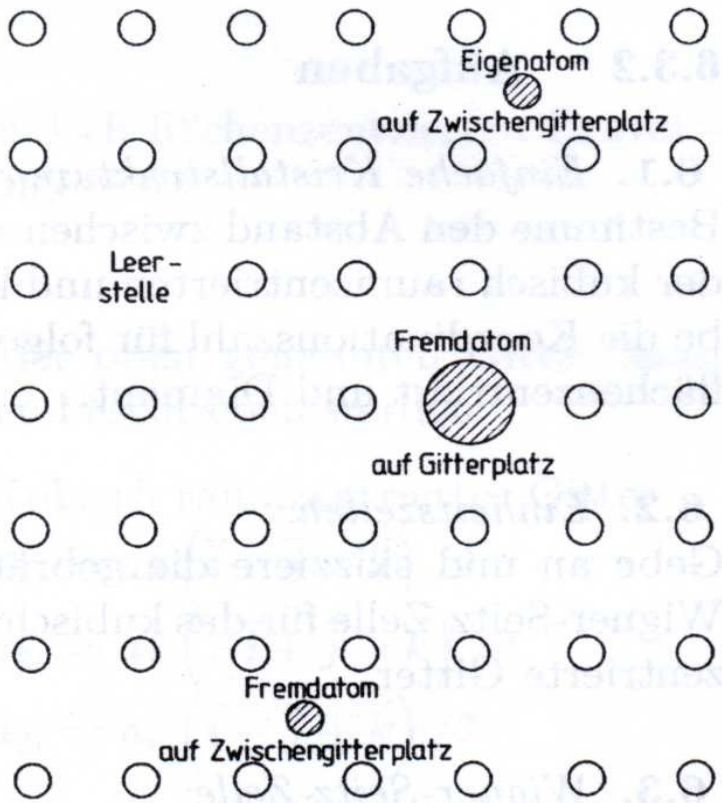


FeCo

Intensitaet sehr
 niedrig ->
 lange Messzeit!

Fig. 2-11

verschiedene Punktdefekte im Kristallgitter



Liniendefekte:

Stufenversetzung

Schraubenversetzung

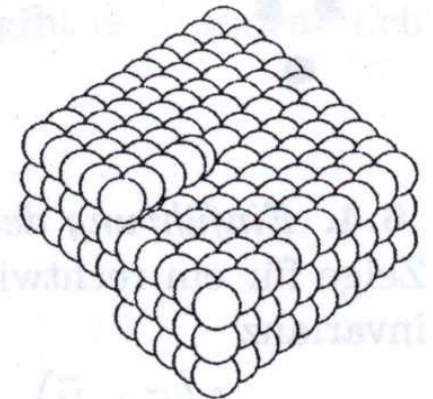
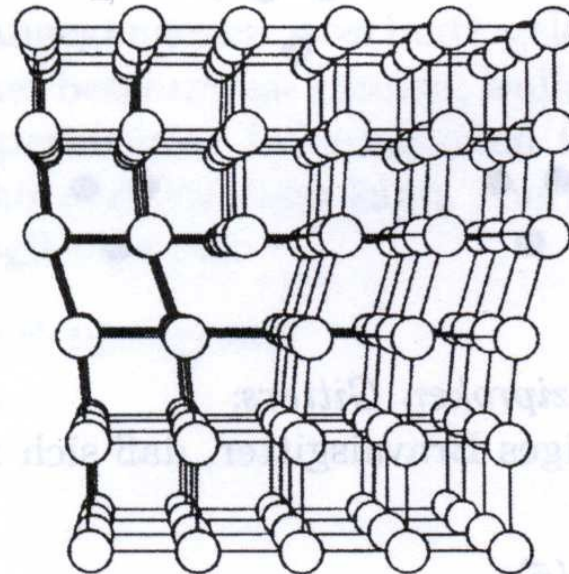
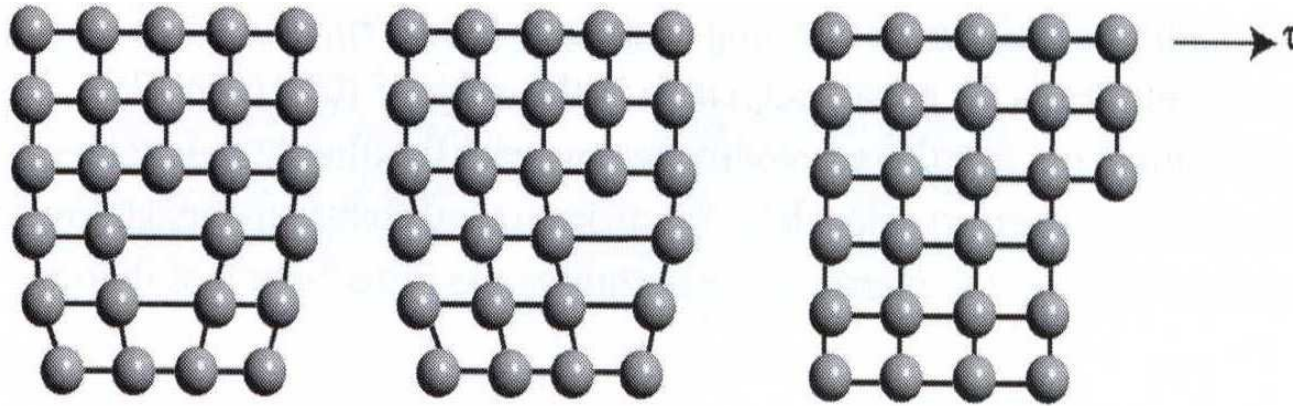


Fig. 2-12, 2-13

Liniendefekt wandert unter Scheerspannung durch Gitter



wenn er nicht von einer Verunreinigung aufgehalten wird "pinning"

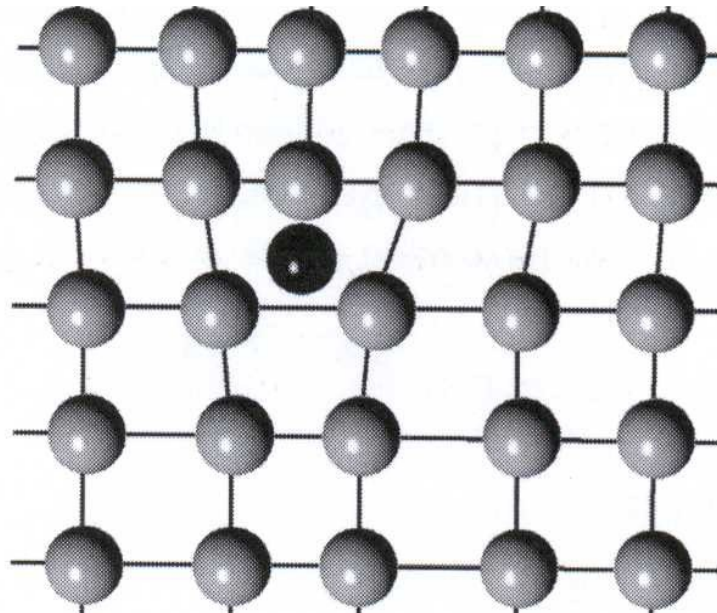


Fig. 2-14

Rastertunnelmikroskop oder scanning tunneling microscope

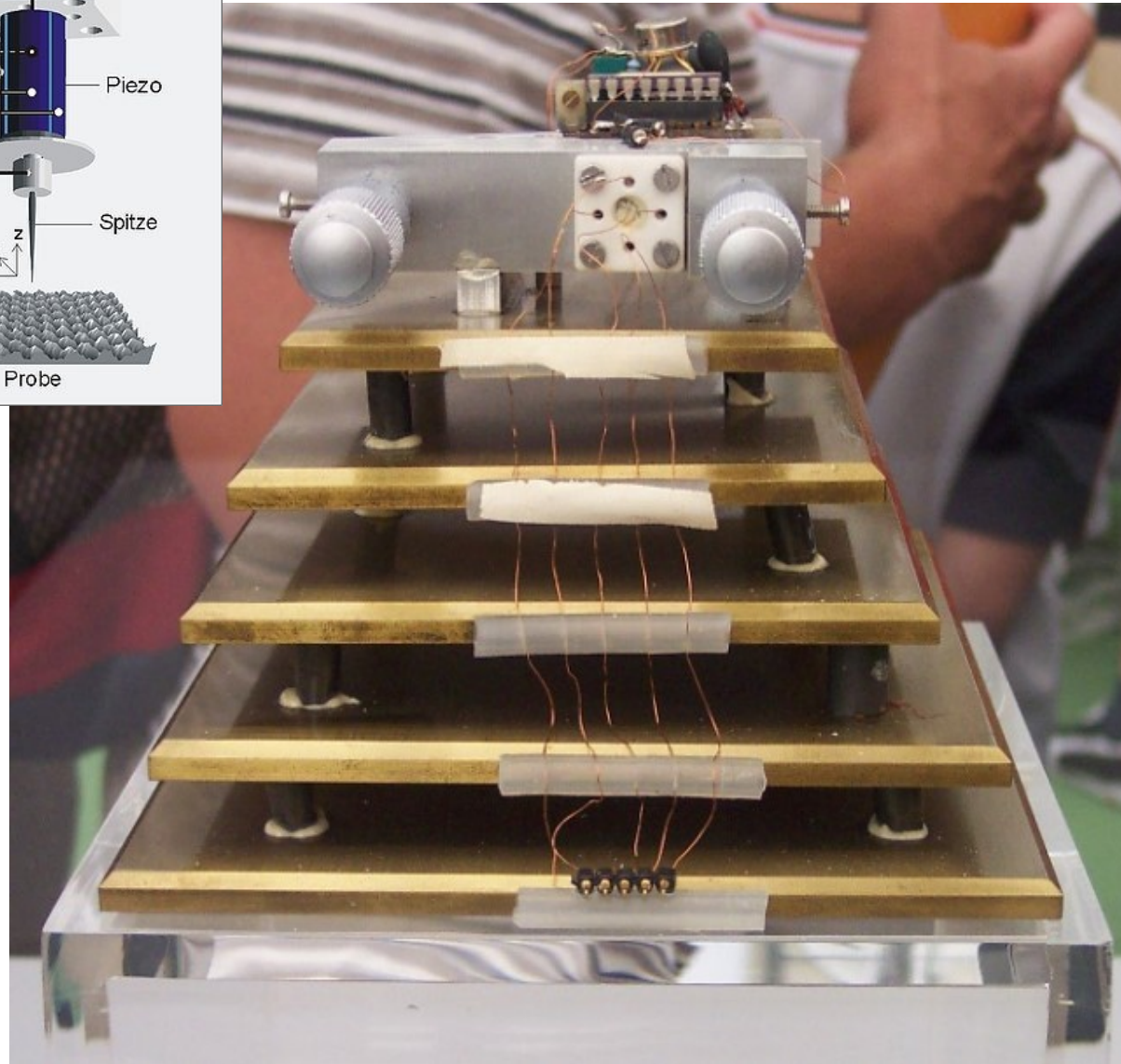
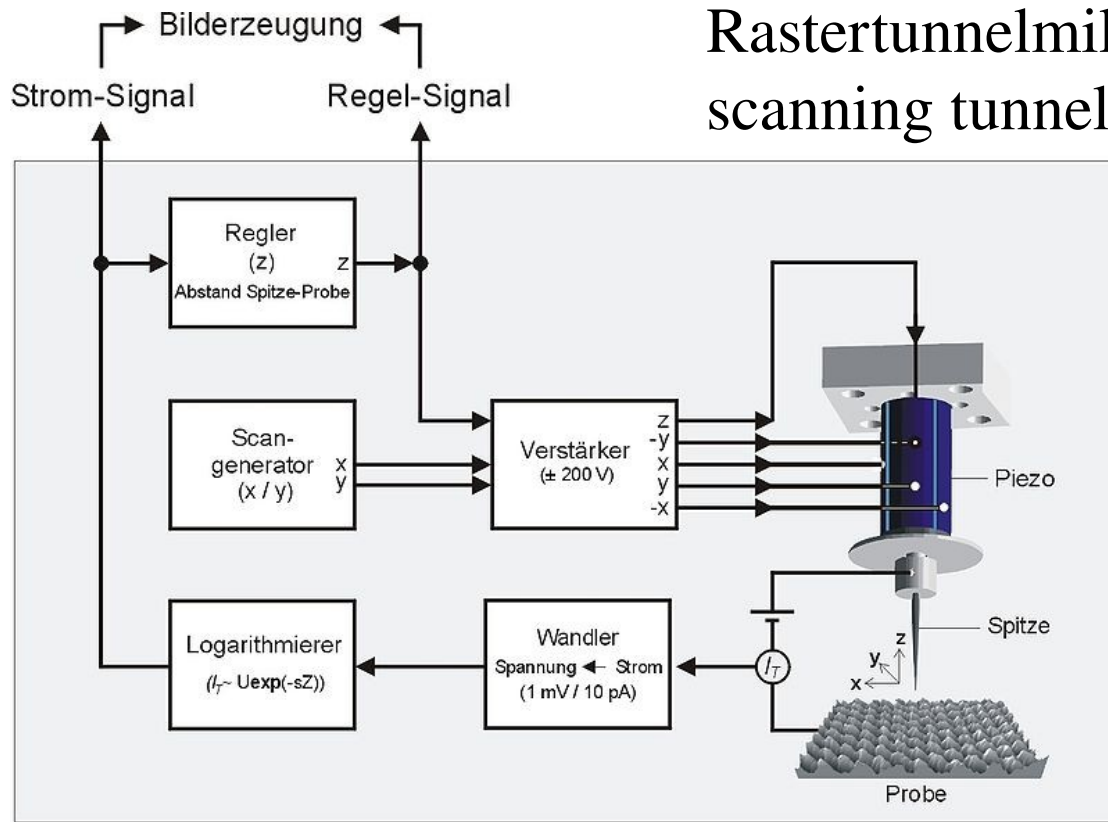
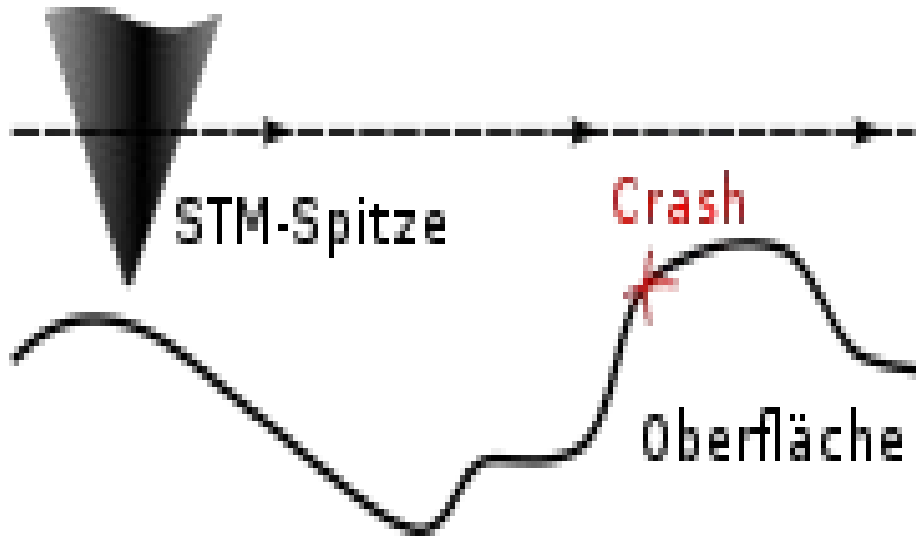


Fig. 2-15



konstante Hoehe ->
 variierender Strom,
 Crashgefahr bei grossen
 Strukturen

konstanter Strom, Spitze
 folgt Konturen in der
 Oberflaeche

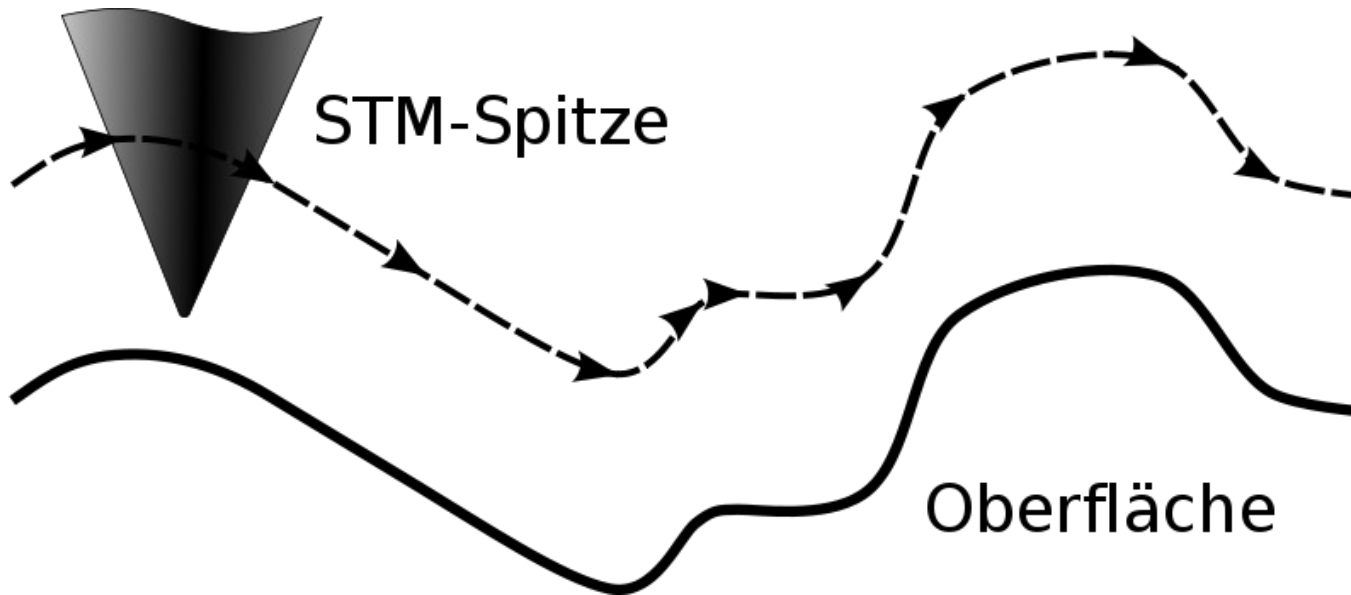
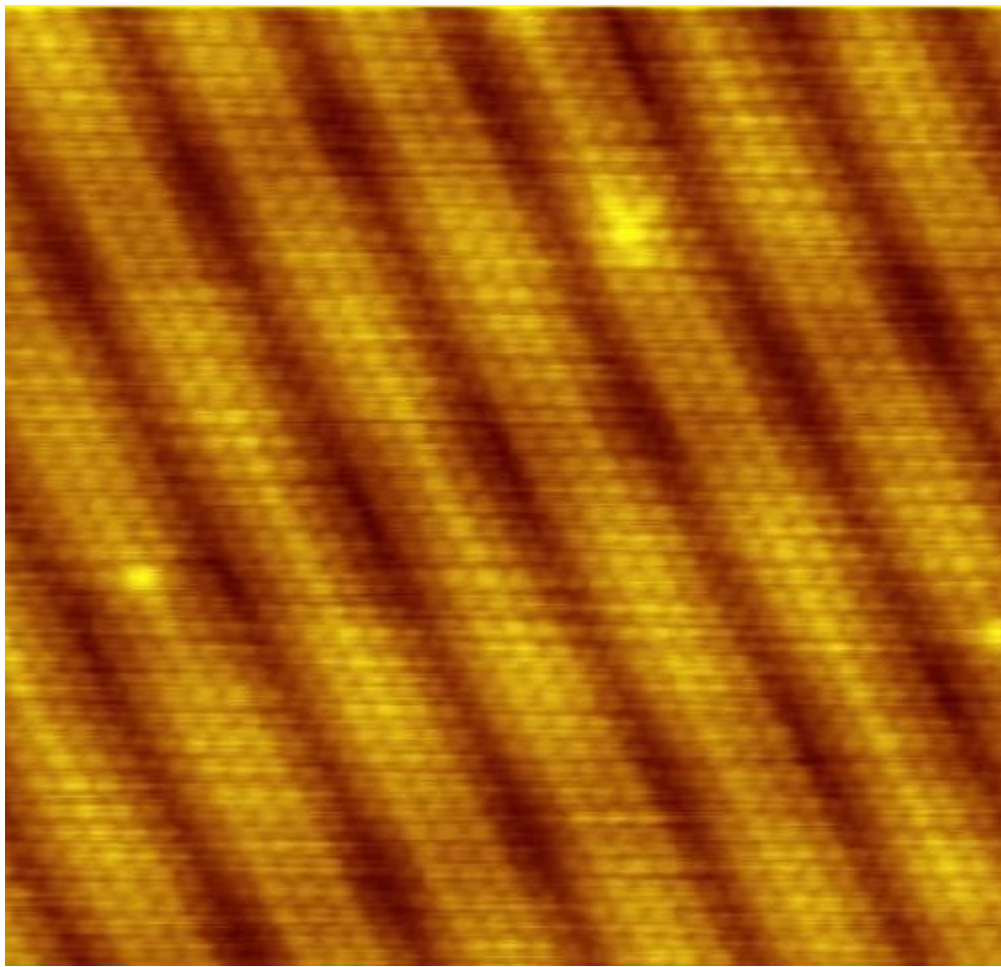
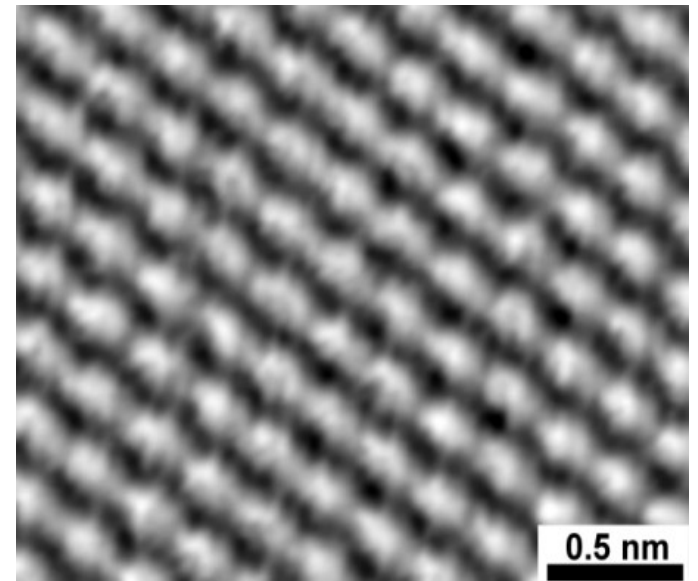


Fig. 2-16

100 Flaeche eines Au-Einkristalls



Graphit



Si (111) mit 2 Fehlstellen

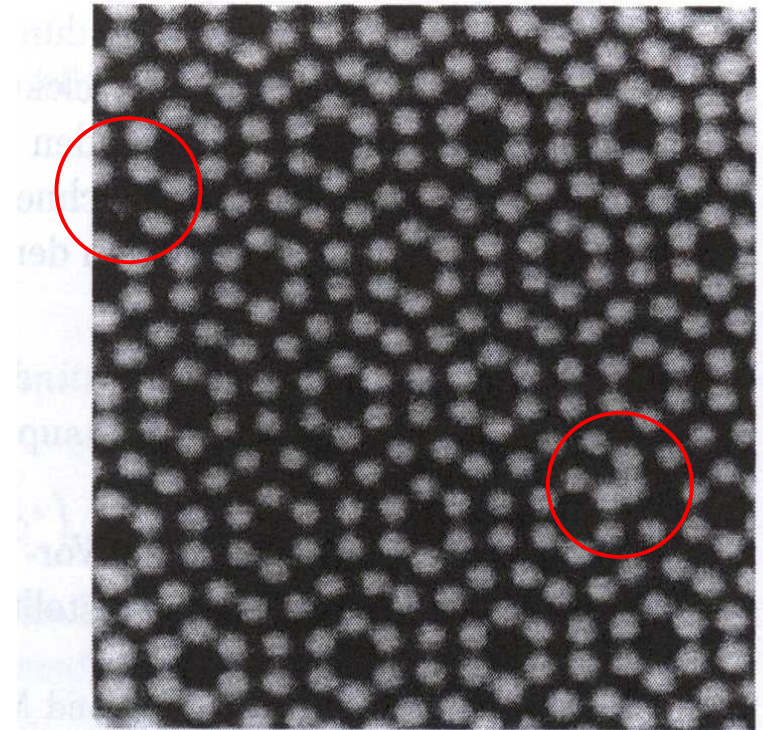


Fig. 2-17

Kette mit 1 Atom pro Einheitszelle

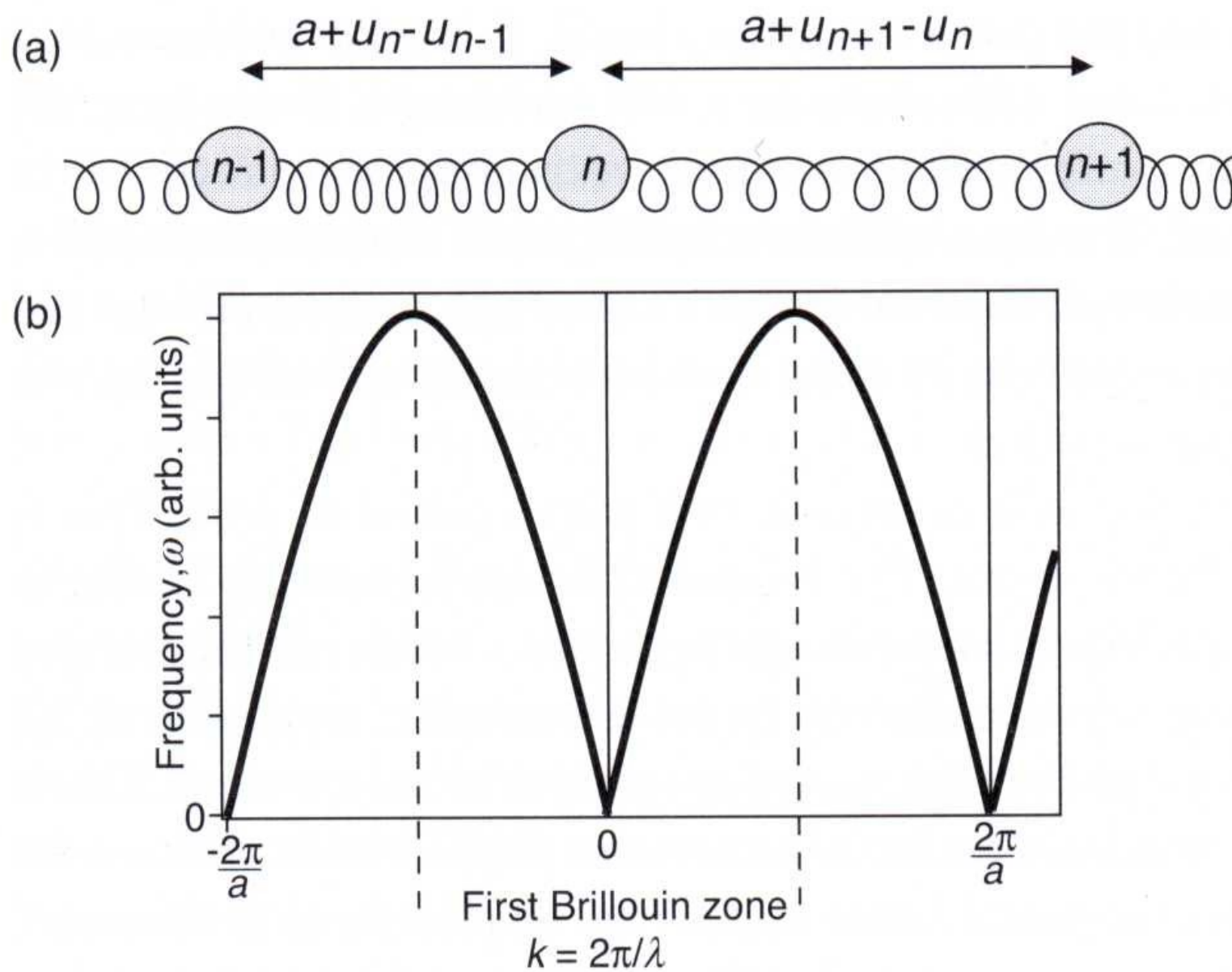


Fig. 3-1

Kette mit 10 Atomen \rightarrow 10 verschiedene Frequenzen

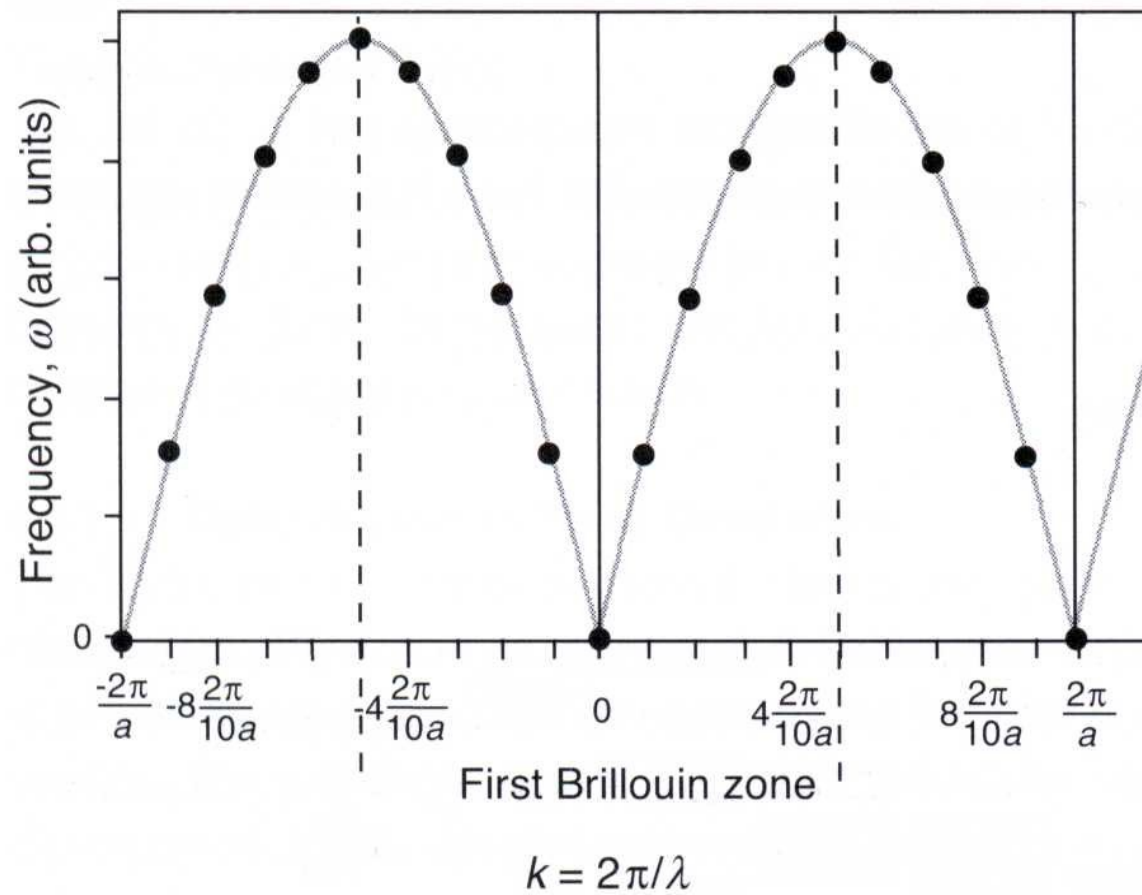
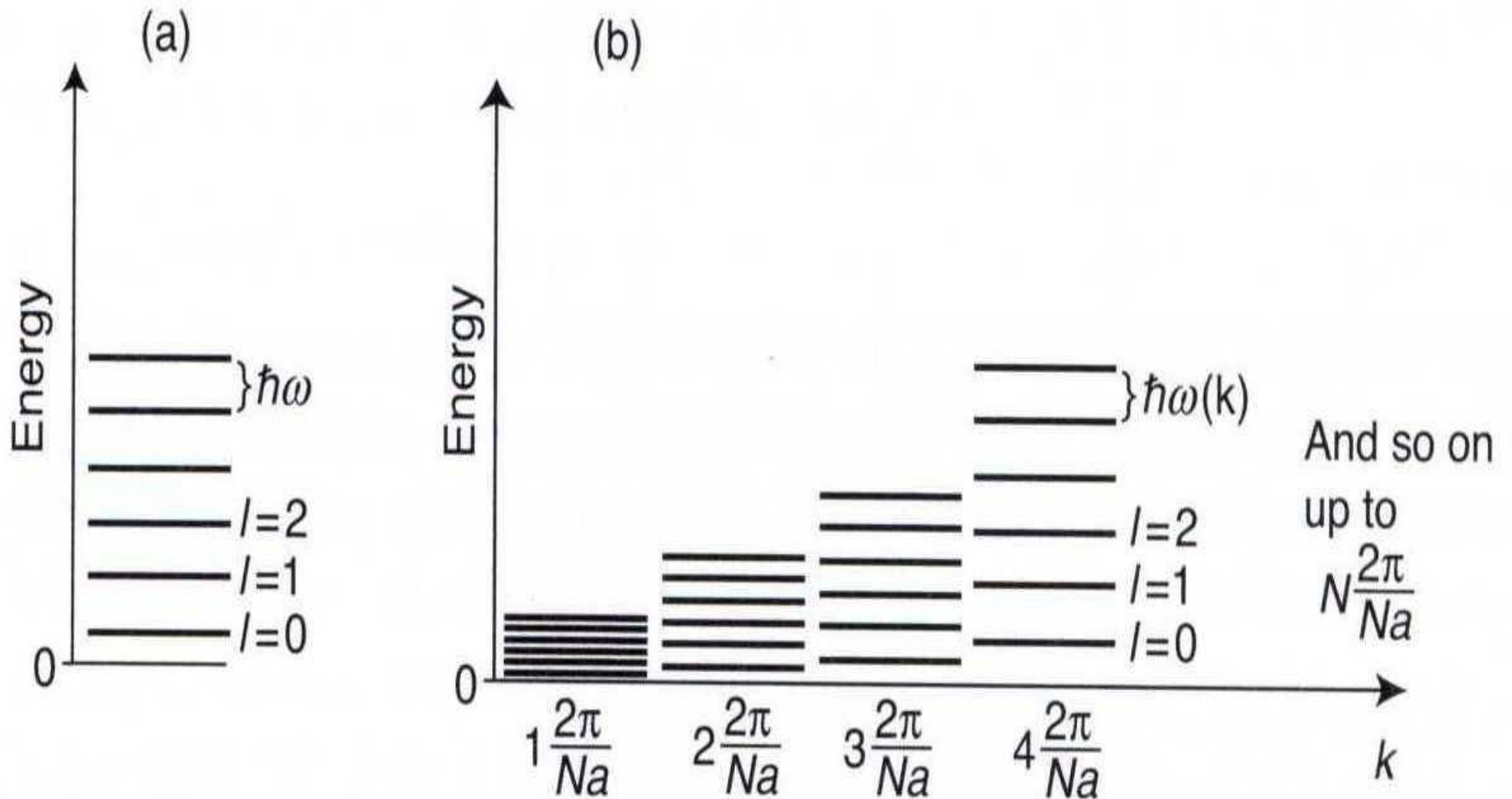


Fig. 3-2

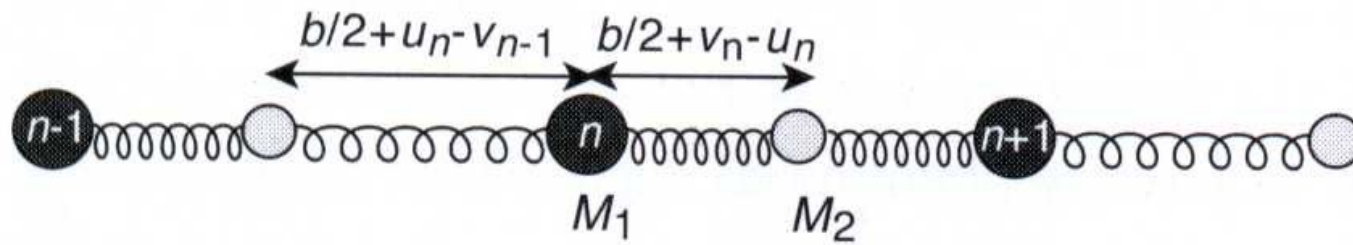


auf jeder der Oszillatorfrequenzen baut sich harmonisches Spektrum quantisierter Eigenzustände auf

Fig. 3-3

Kette mit 2 Atomen pro Einheitszelle

(a)



(b)

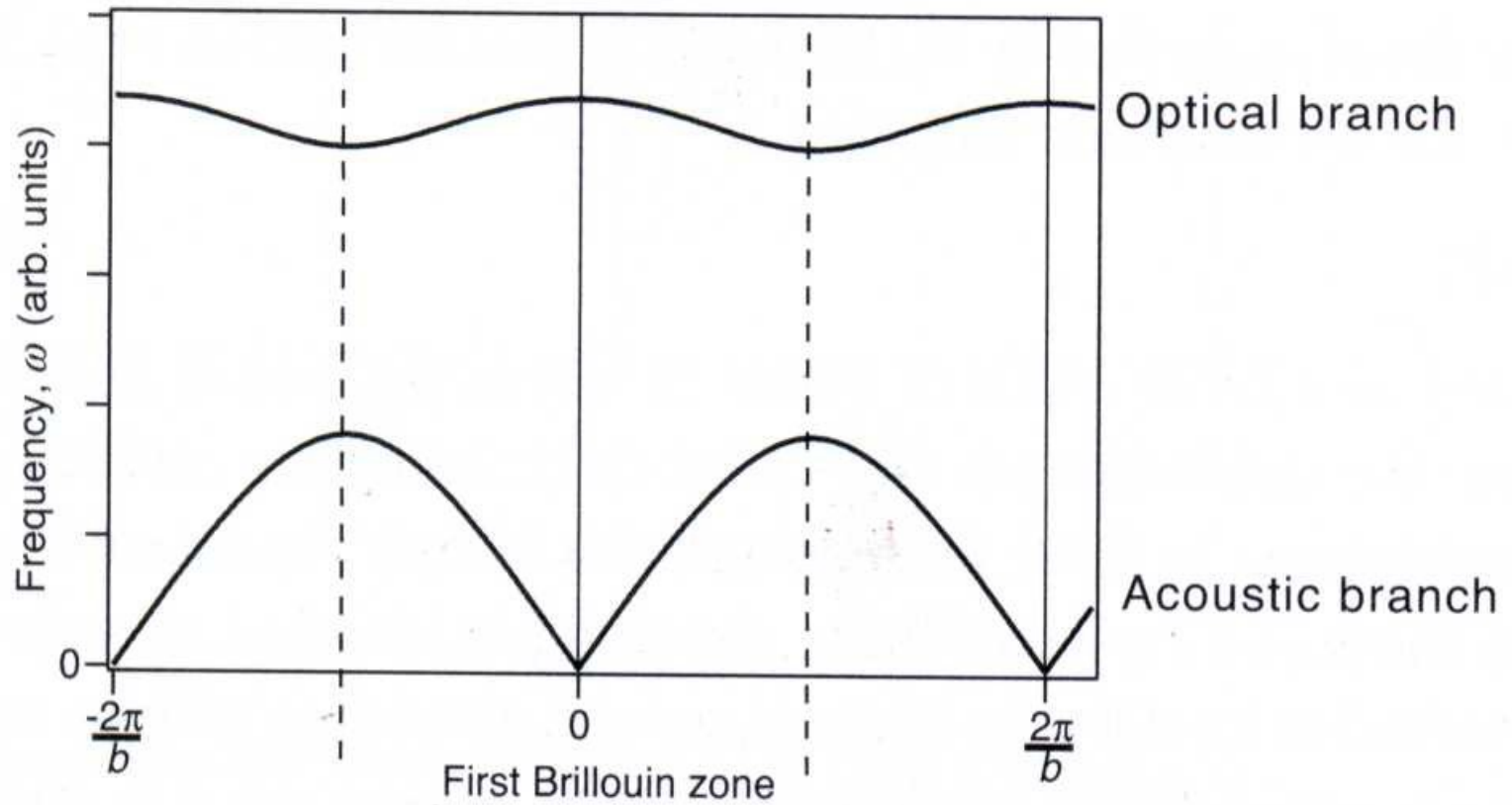


Fig. 3-4

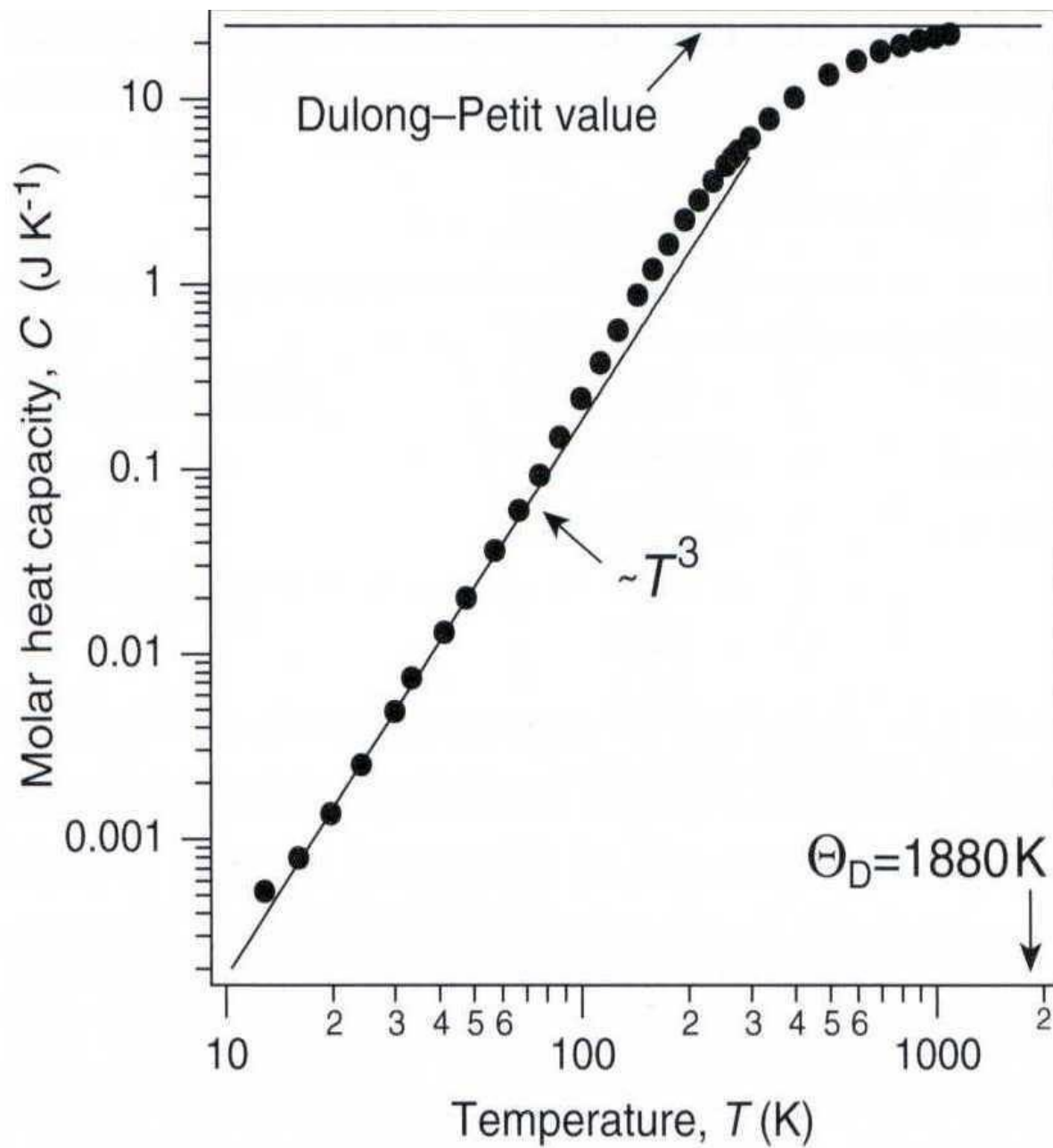


Fig. 3-5