

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

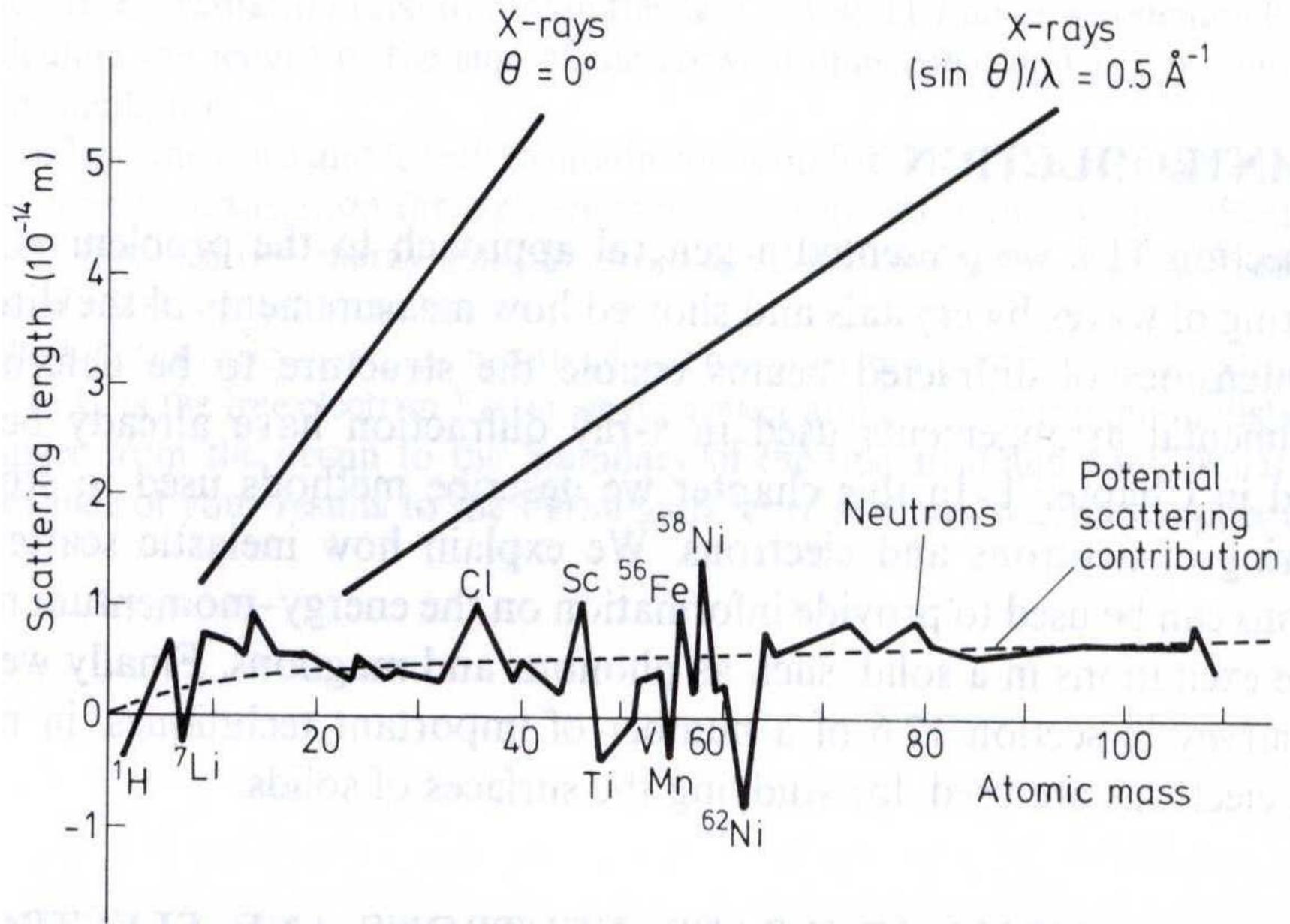


Fig. 2-9

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

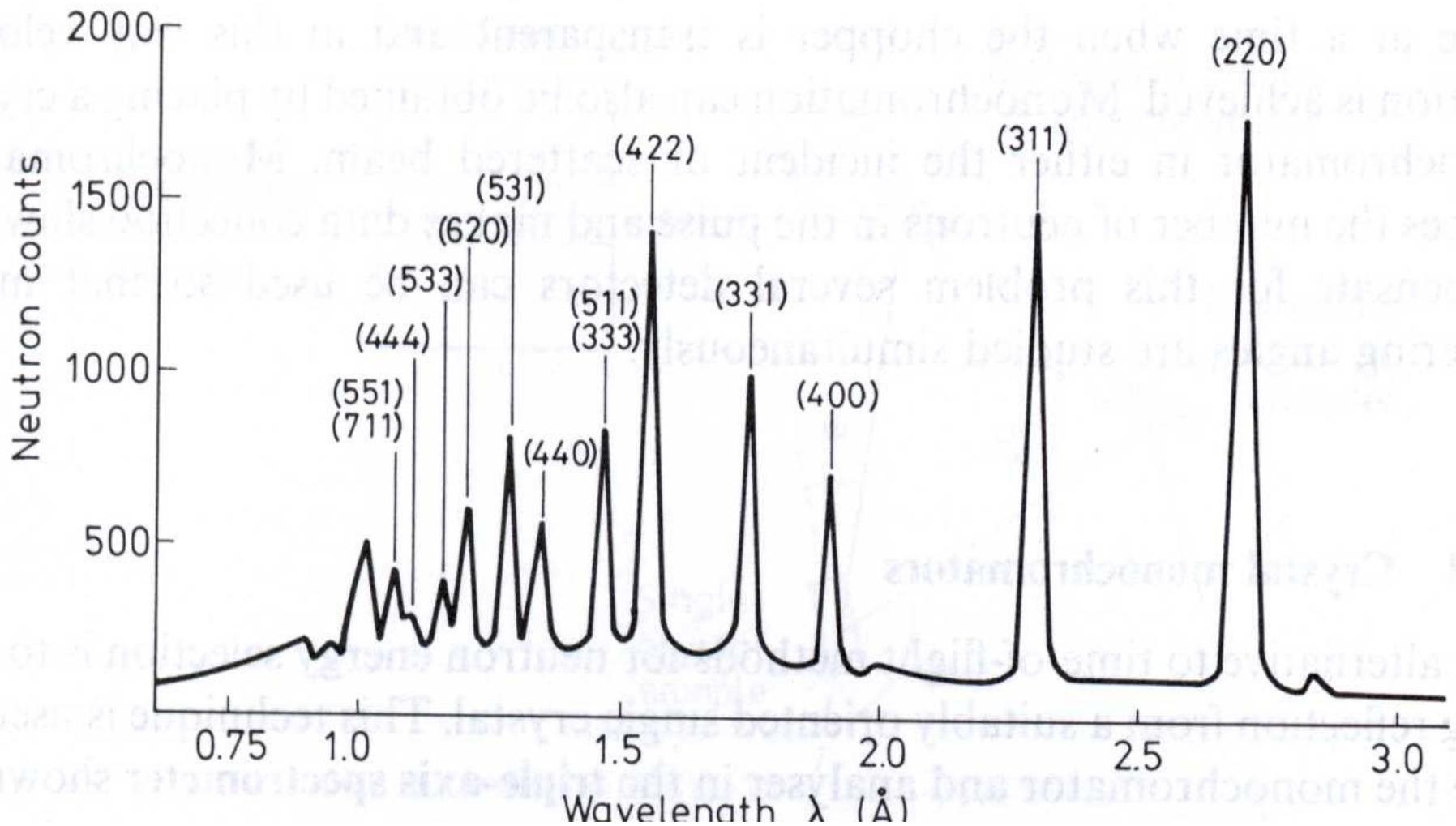
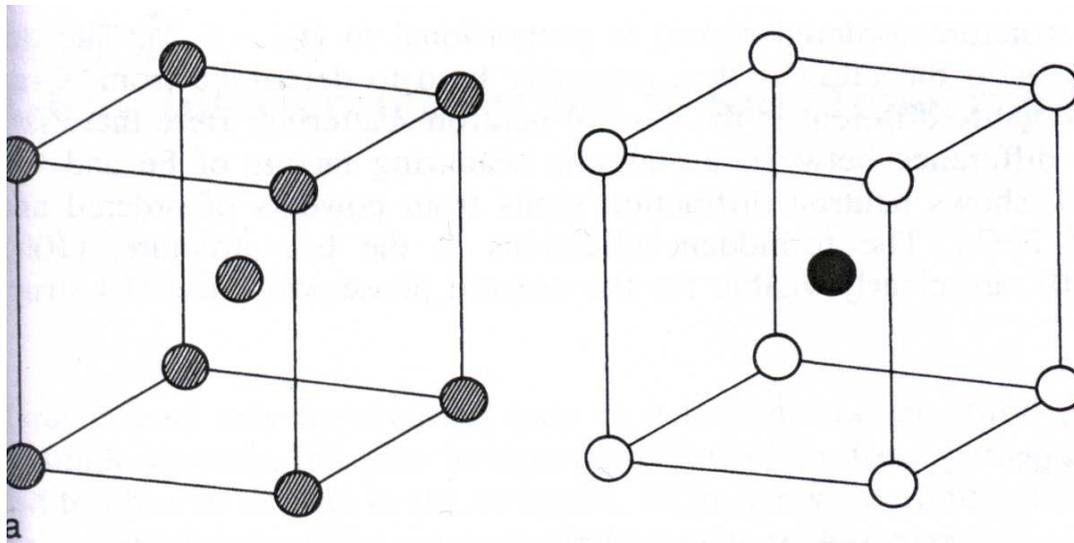
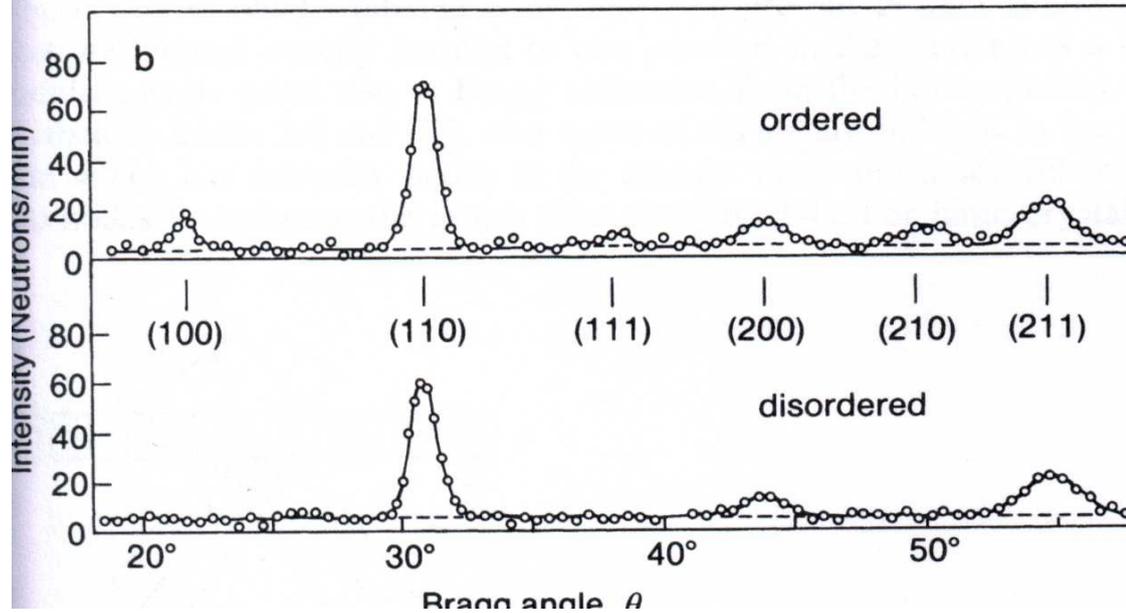


Fig. 2-10



○ Atom A      ● Atom B  
 ● Atom A or B

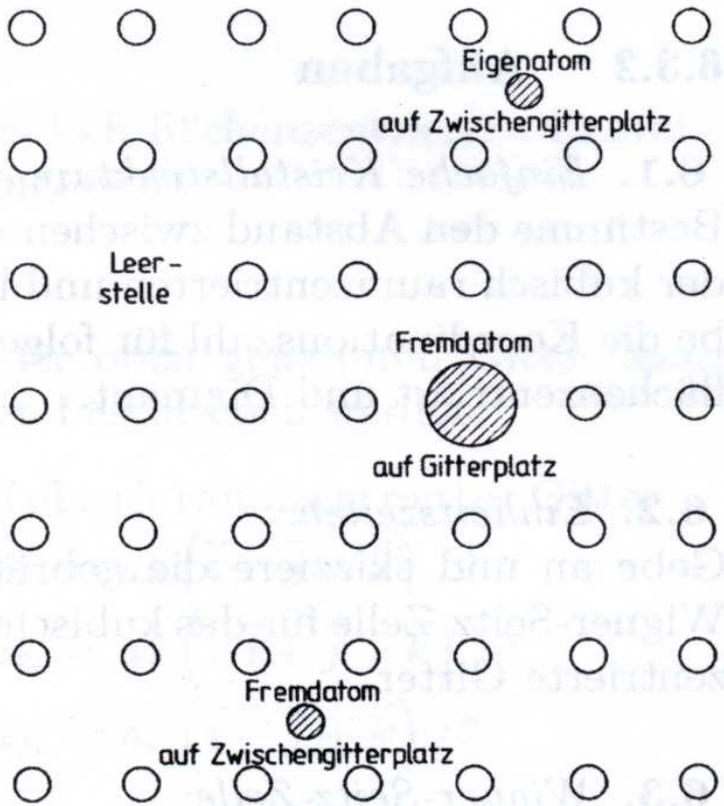


FeCo

Intensitaet sehr  
 niedrig ->  
 lange Messzeit!

Fig. 2-11

# verschiedene Punktdefekte im Kristallgitter



Liniendefekte:

Stufenversetzung

Schraubenversetzung

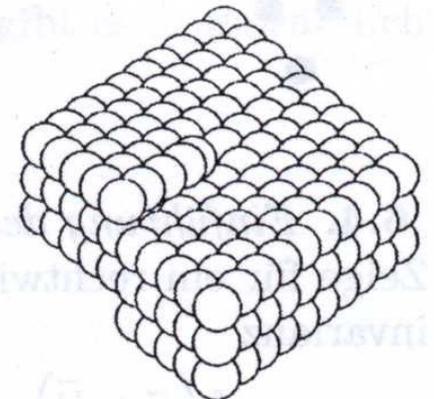
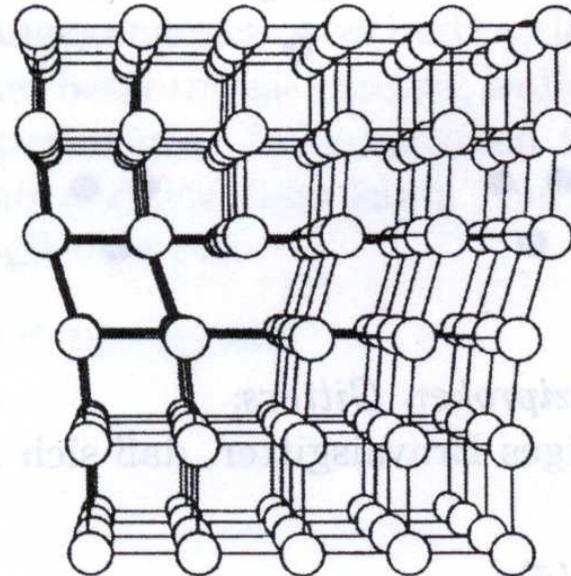
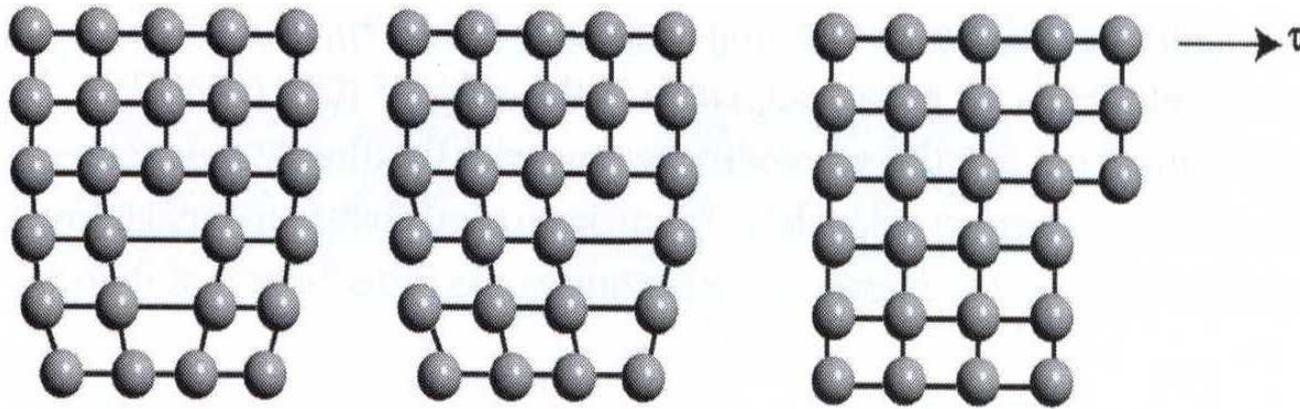


Fig. 2-12, 2-13

# Liniendefekt wandert unter Scheerspannung durch Gitter



wenn er nicht von einer Verunreinigung aufgehalten wird "pinning"

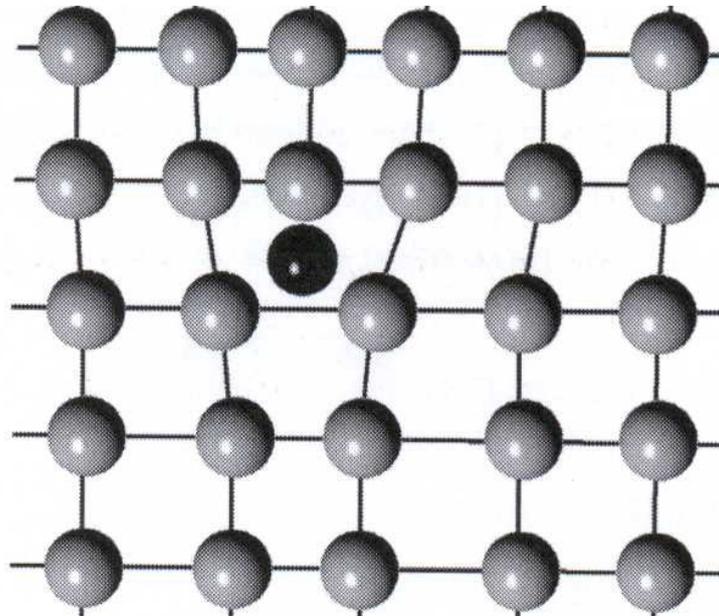


Fig. 2-14

# Rastertunnelmikroskop oder scanning tunneling microscope

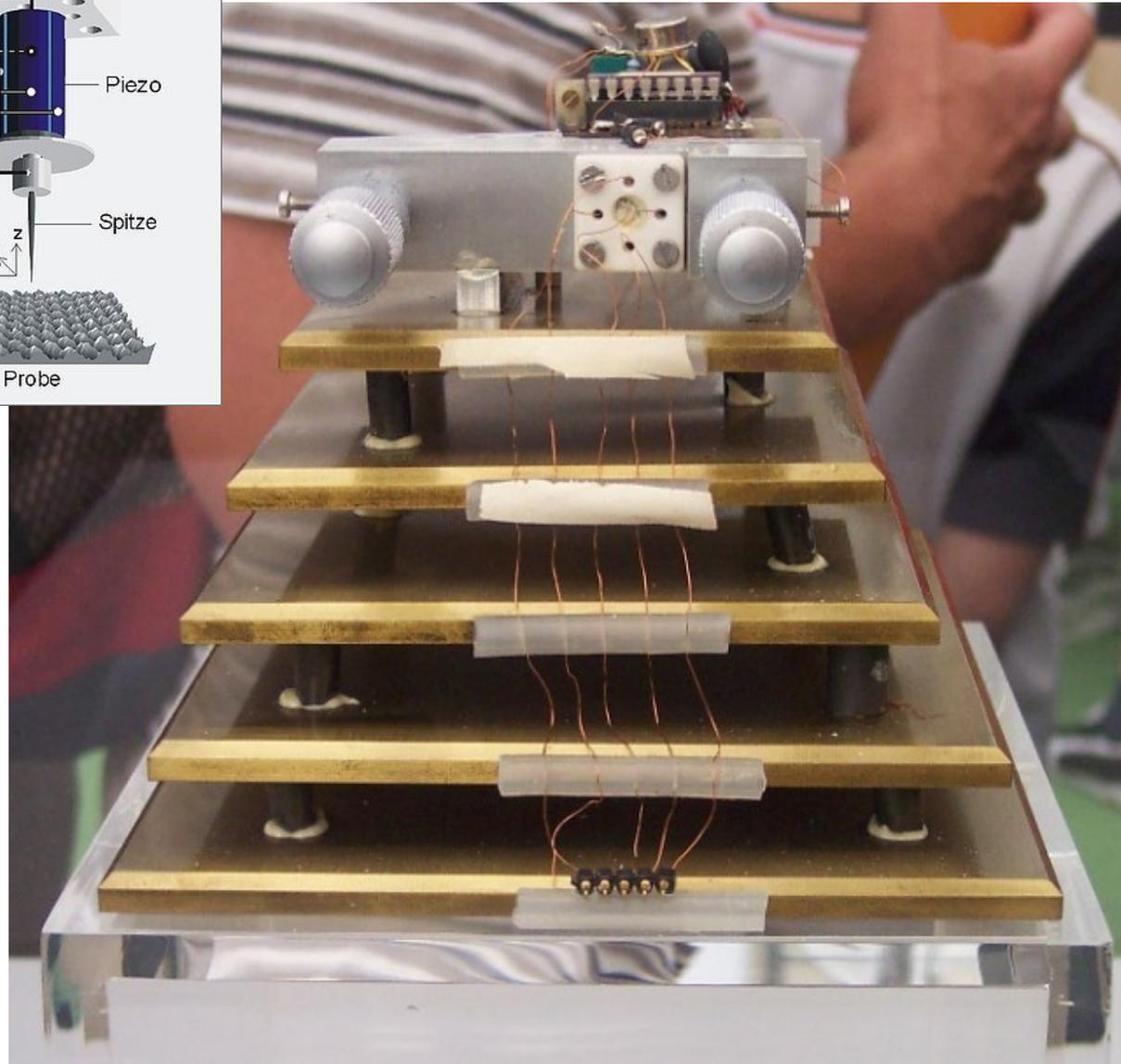
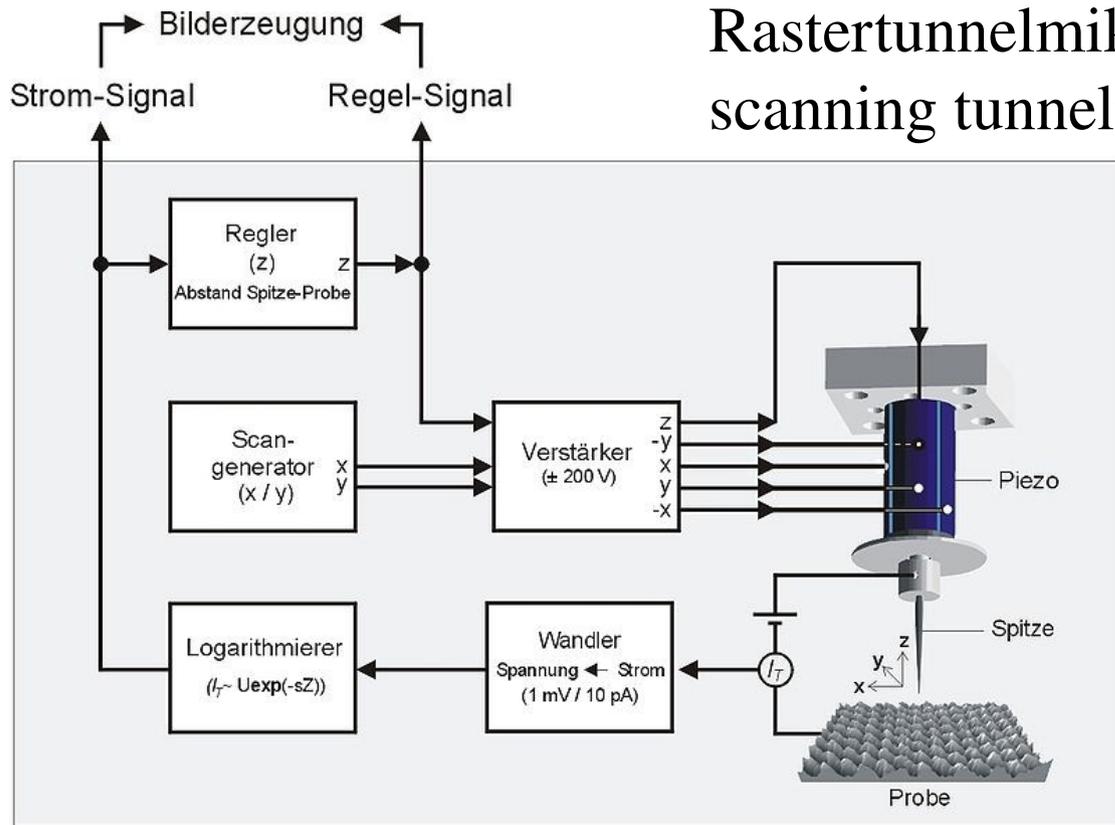
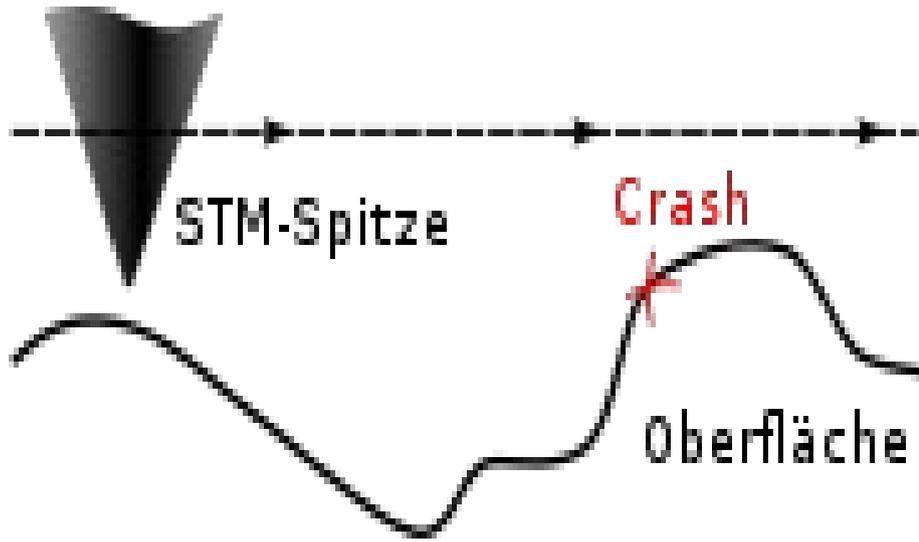


Fig. 2-15



konstante Hoehe ->  
 variierender Strom,  
 Crashgefahr bei grossen  
 Strukturen

konstanter Strom, Spitze  
 folgt Konturen in der  
 Oberflaeche

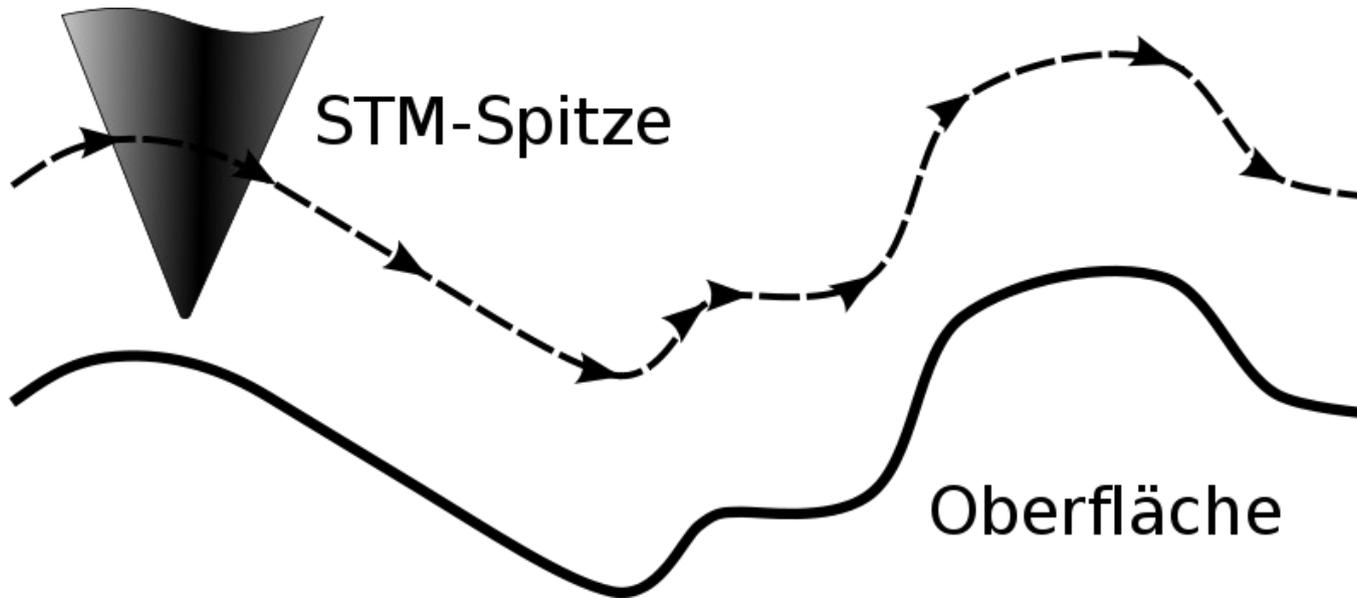
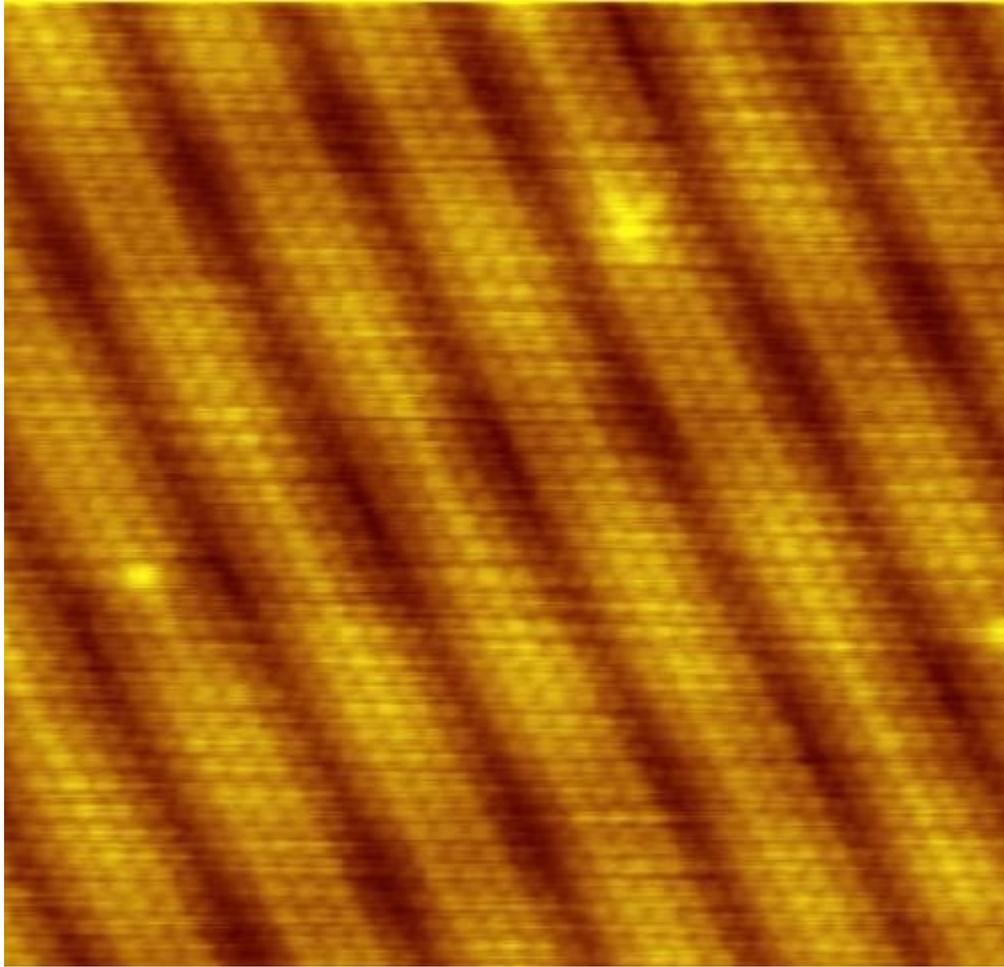
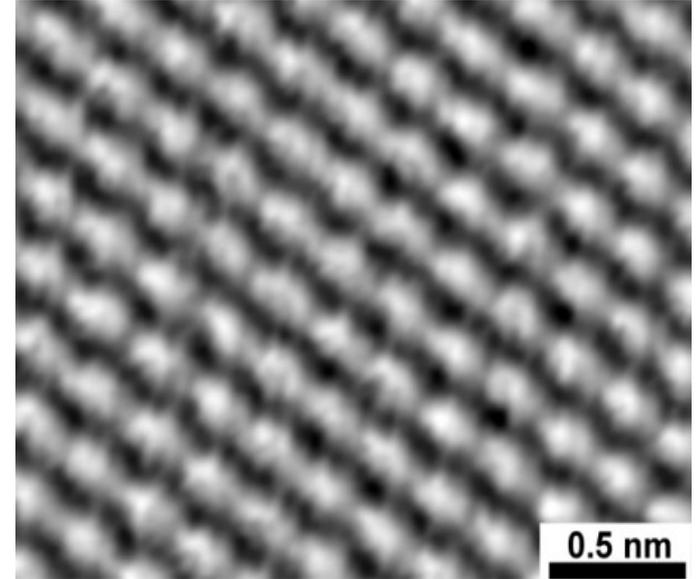


Fig. 2-16

100 Flaeche eines Au-Einkristalls



Graphit



Si (111) mit 2 Fehlstellen

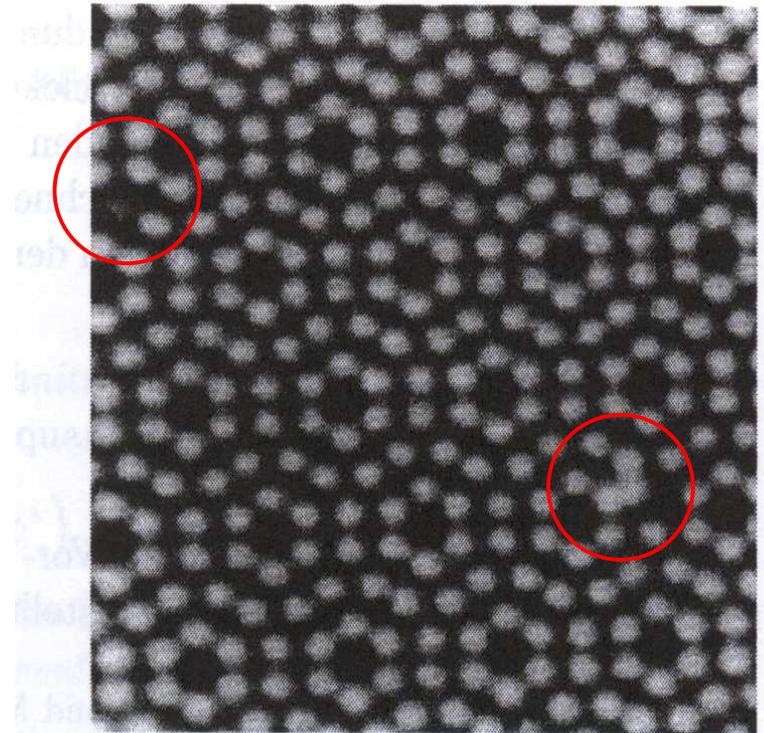


Fig. 2-17

# Kette mit 1 Atom pro Einheitszelle

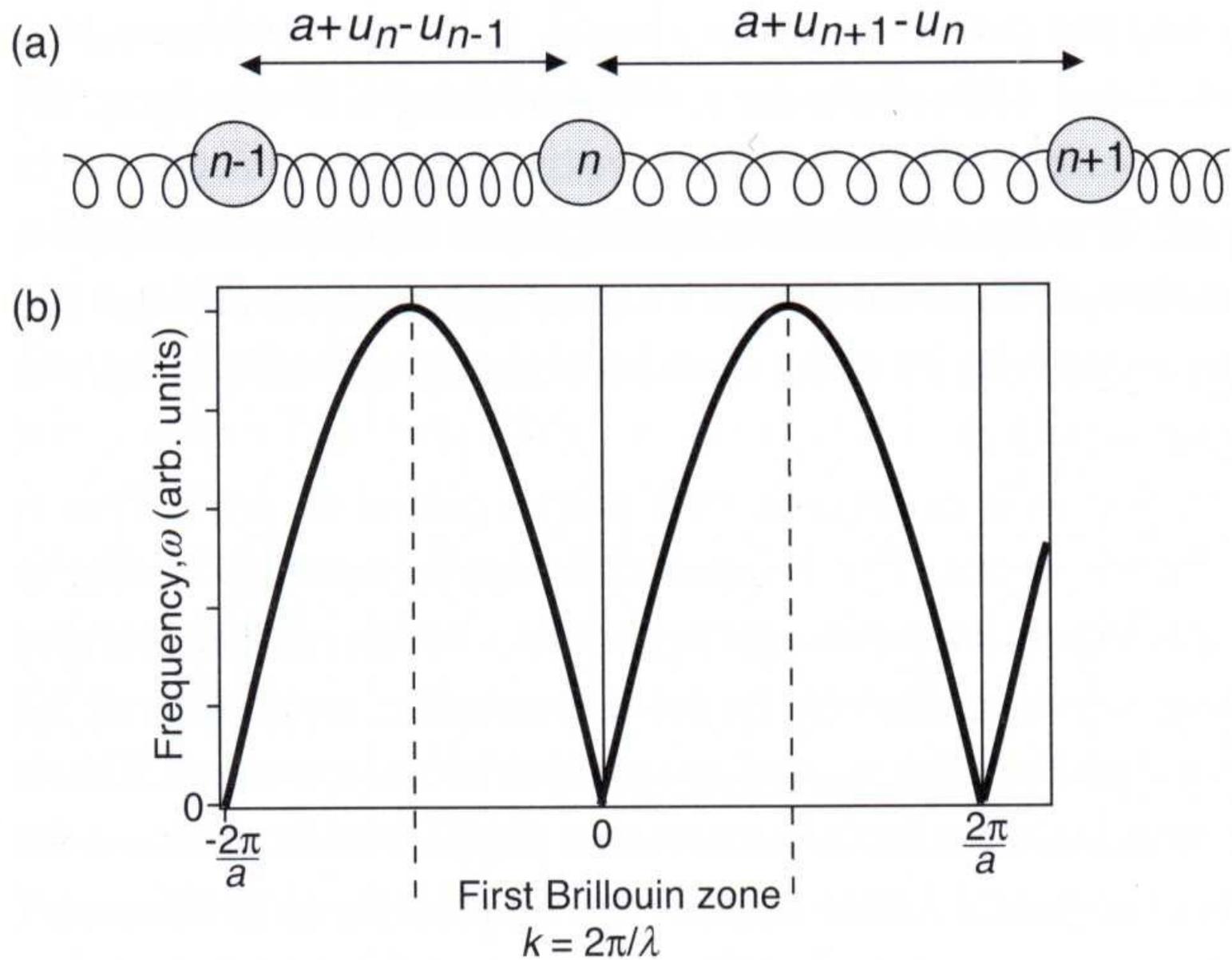


Fig. 3-1

Kette mit 10 Atomen  $\rightarrow$  10 verschiedene Frequenzen

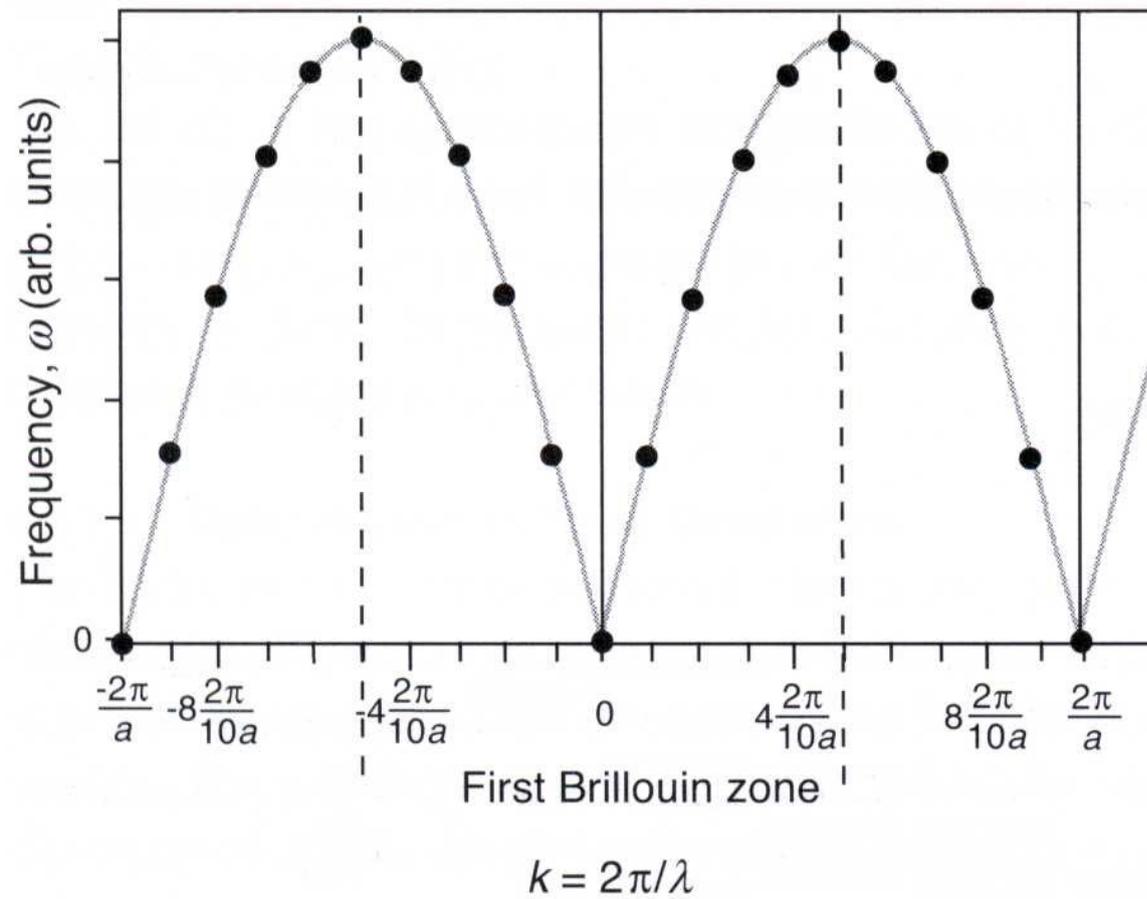
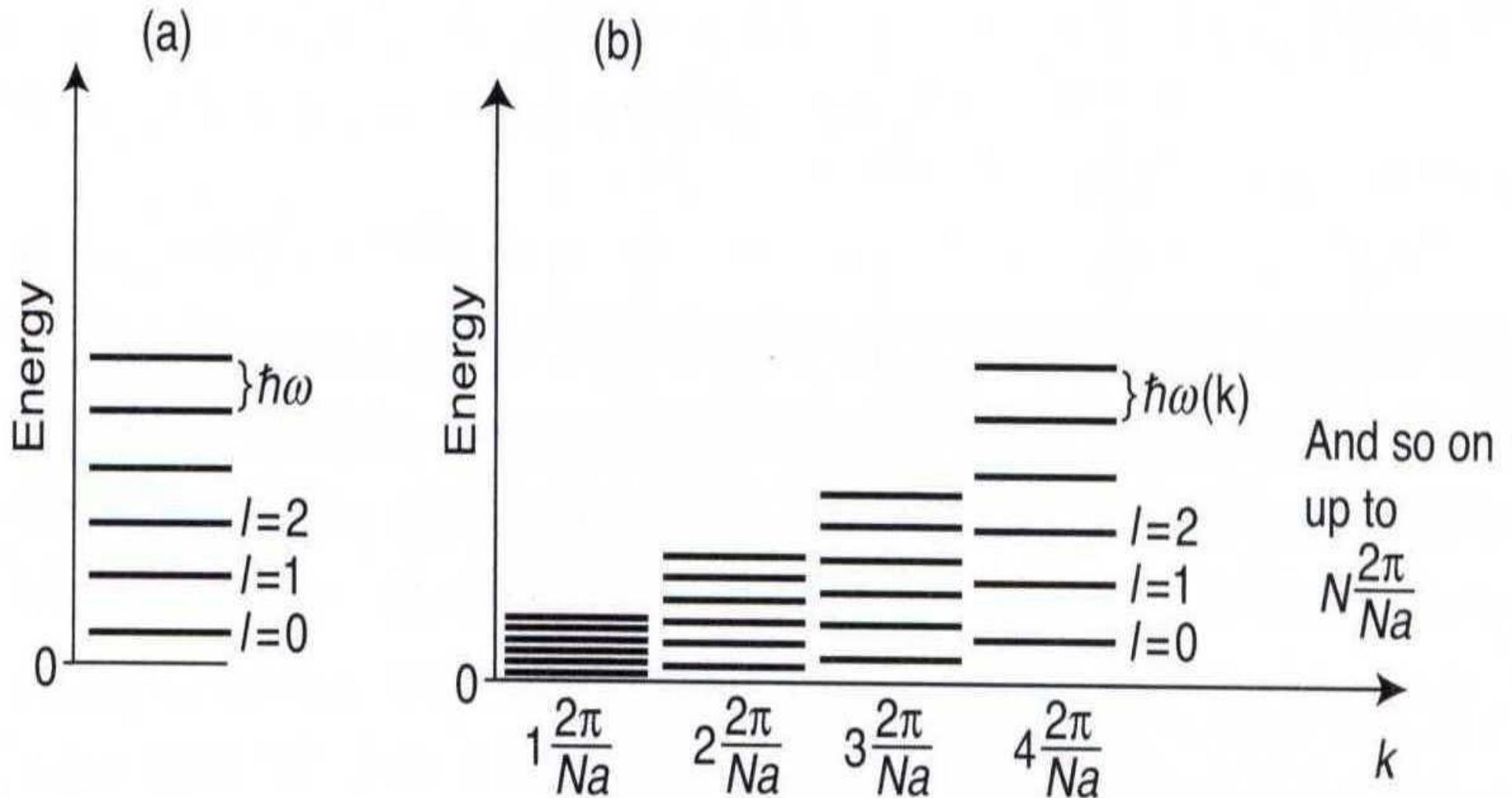


Fig. 3-2



auf jeder der Oszillatorfrequenzen baut sich harmonisches Spektrum quantisierter Eigenzustände auf

Fig. 3-3

# Kette mit 2 Atomen pro Einheitszelle

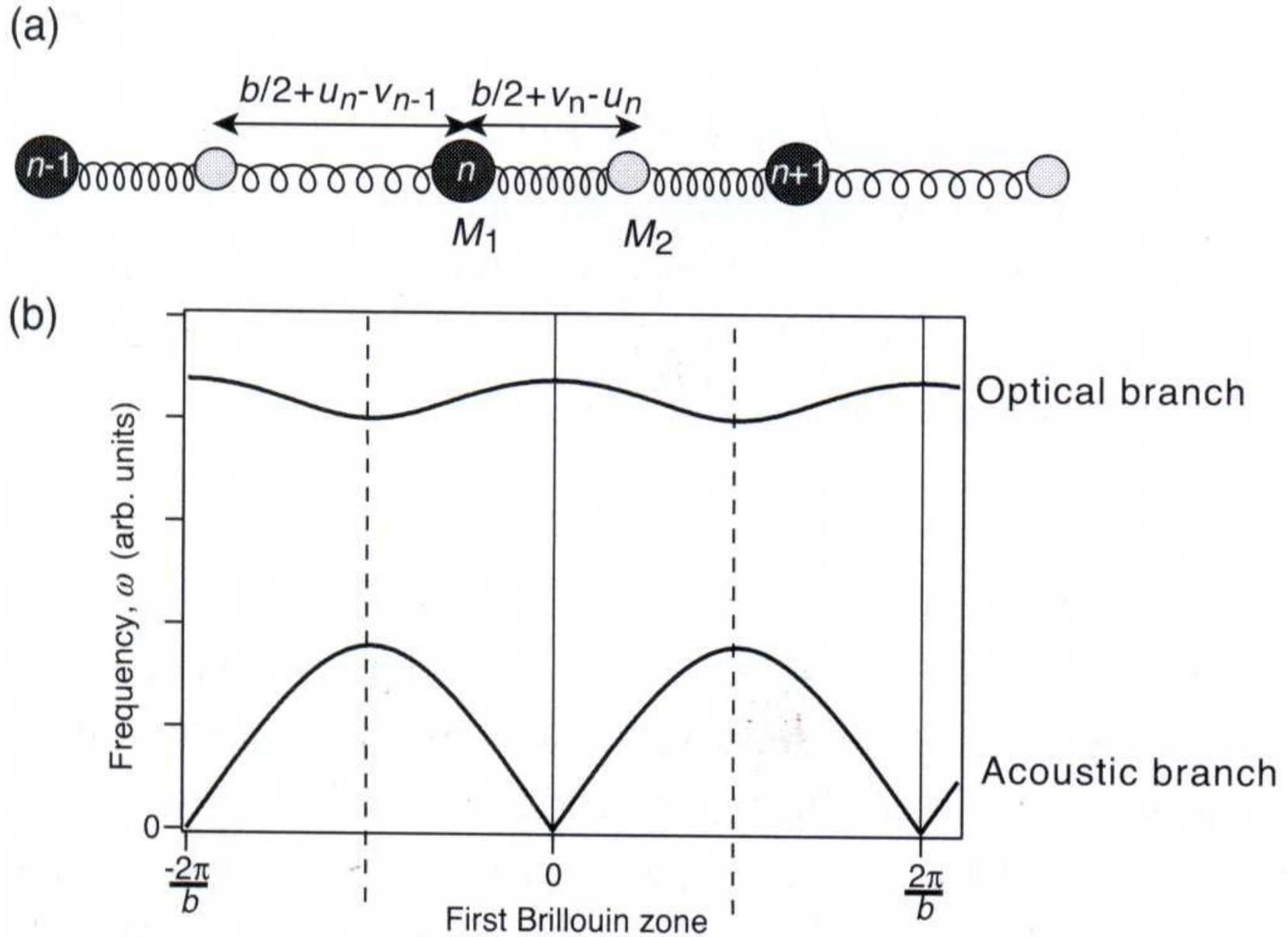


Fig. 3-4

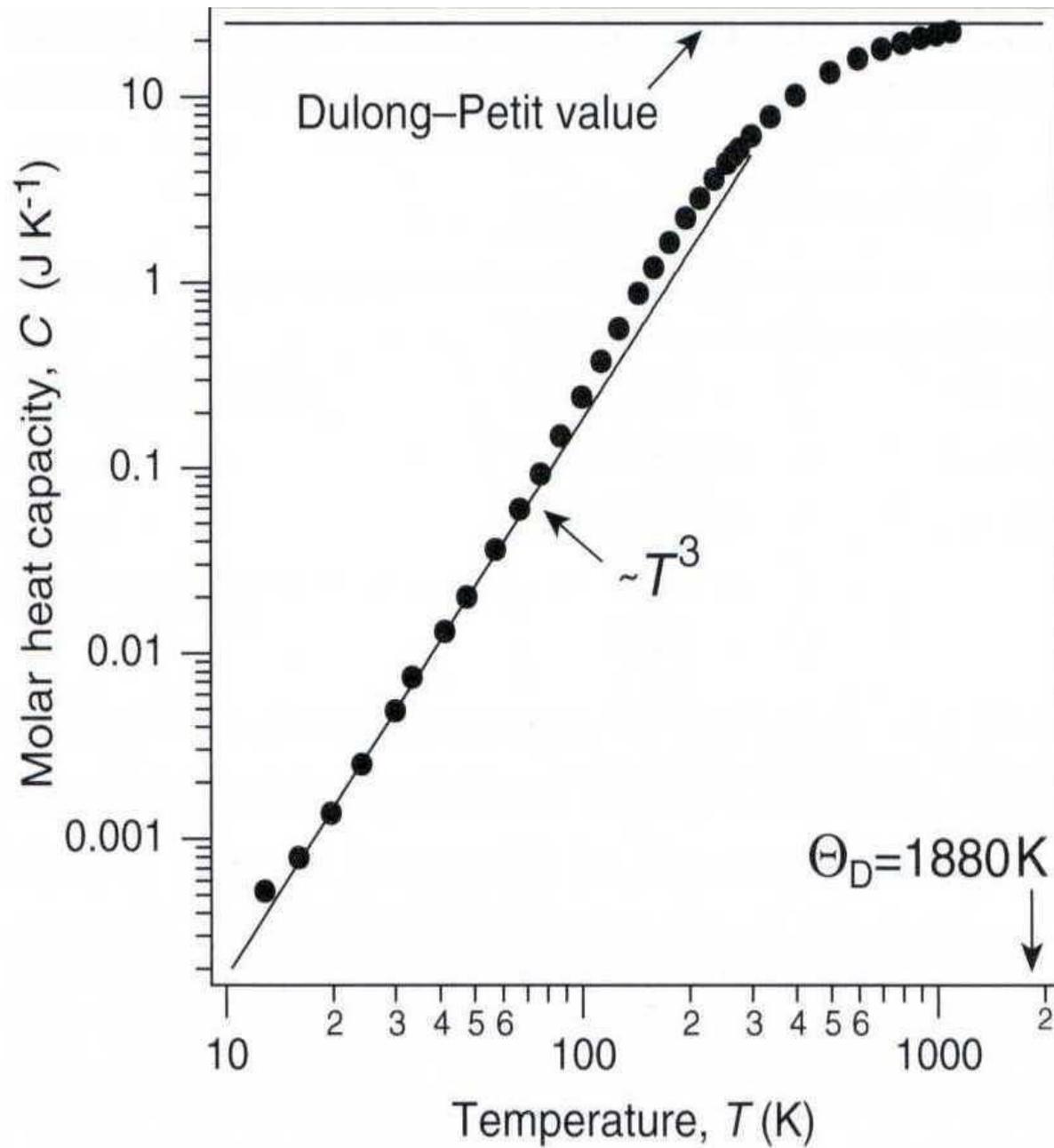


Fig. 3-5