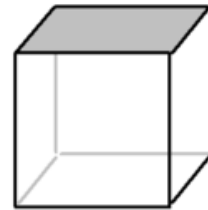
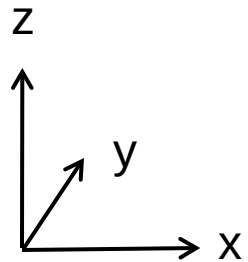
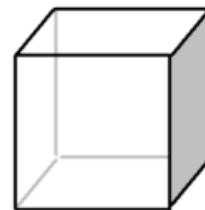


Strukturbestimmung und reziprokes Gitter

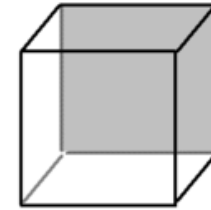
1. **Streuamplitude**
2. **Reziprokes-Gitter**
3. **Millersche Indizes**
4. **Brillouin-Zone**
5. **Streubedingung**
6. **Ewald-Kugel**
7. **Methoden der Strukturanalyse**



(001)

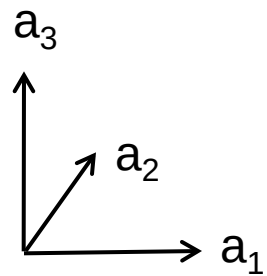


(100)

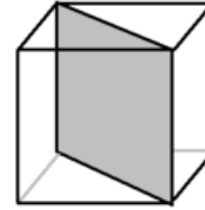


(010)

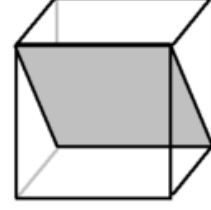
oder



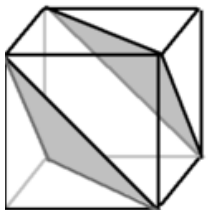
(101)



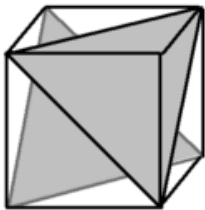
(110)



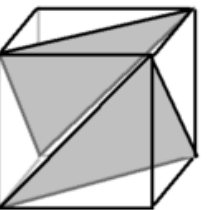
(011)



(111)

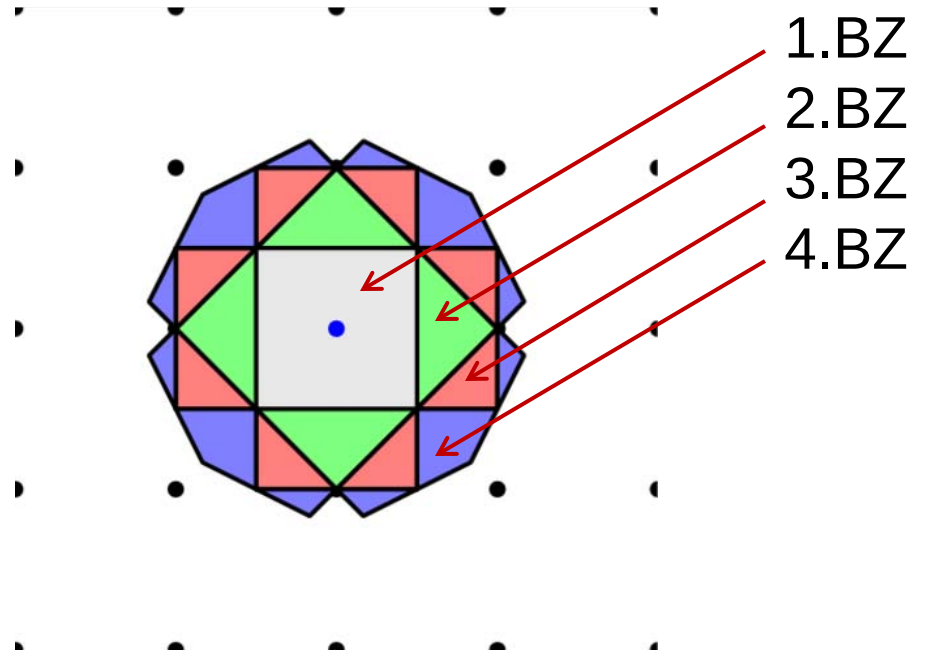
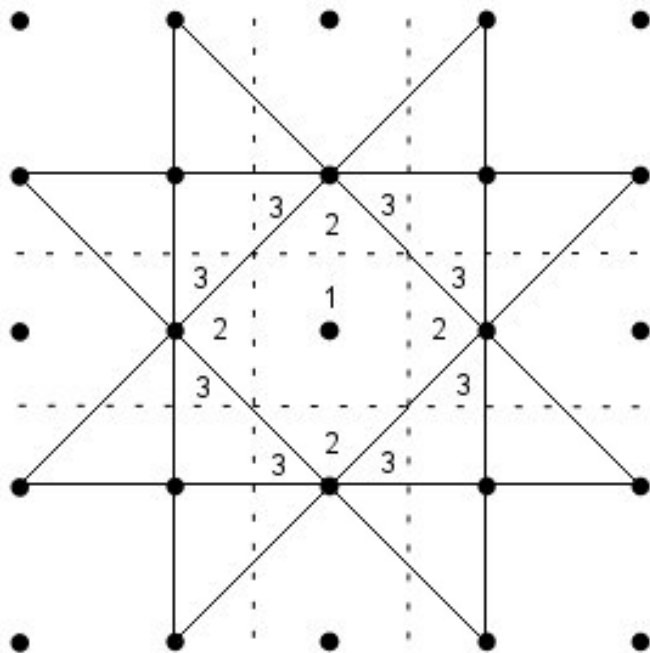


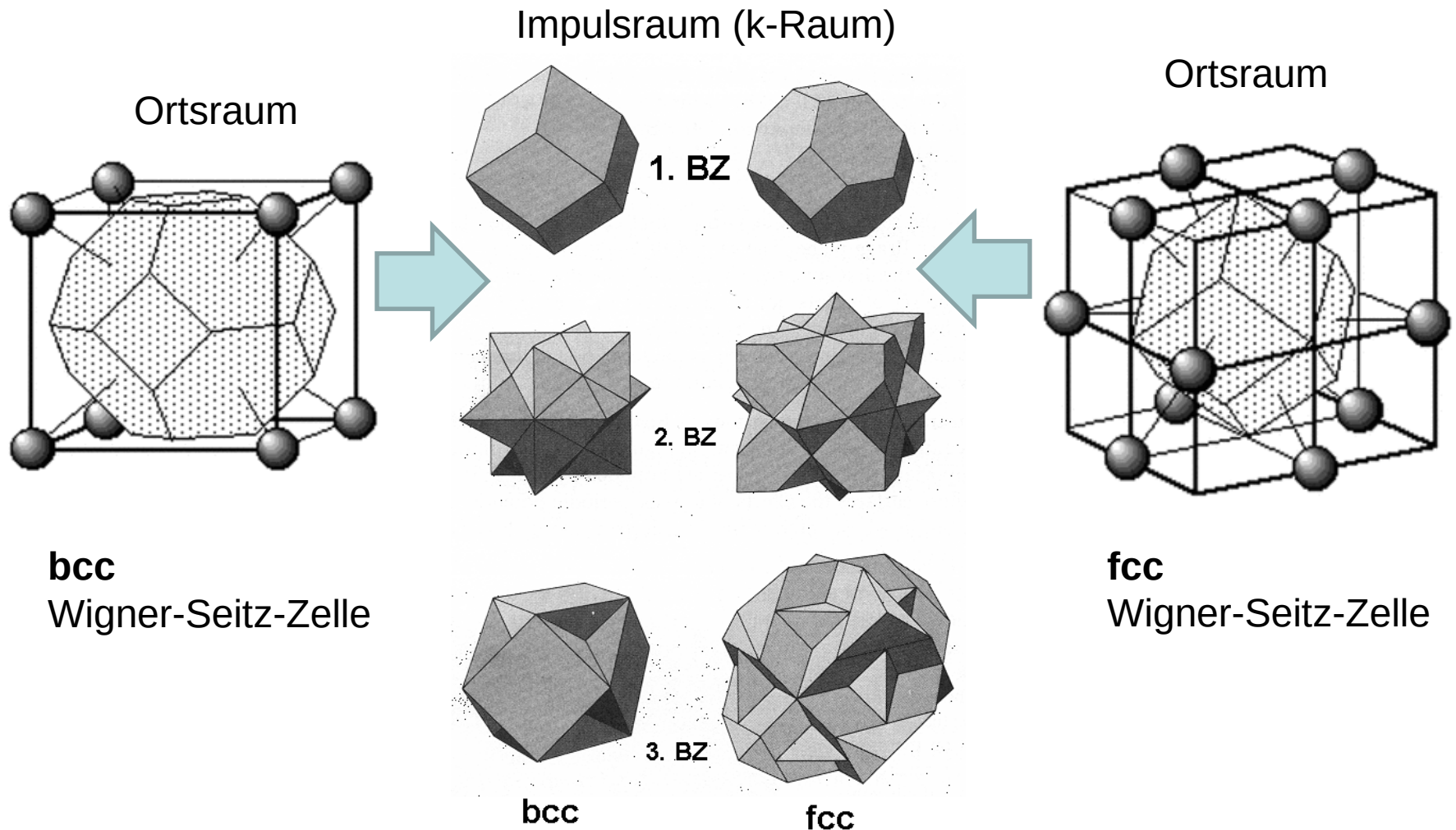
$(\bar{1}\bar{1}1)$



$(\bar{1}1\bar{1})$

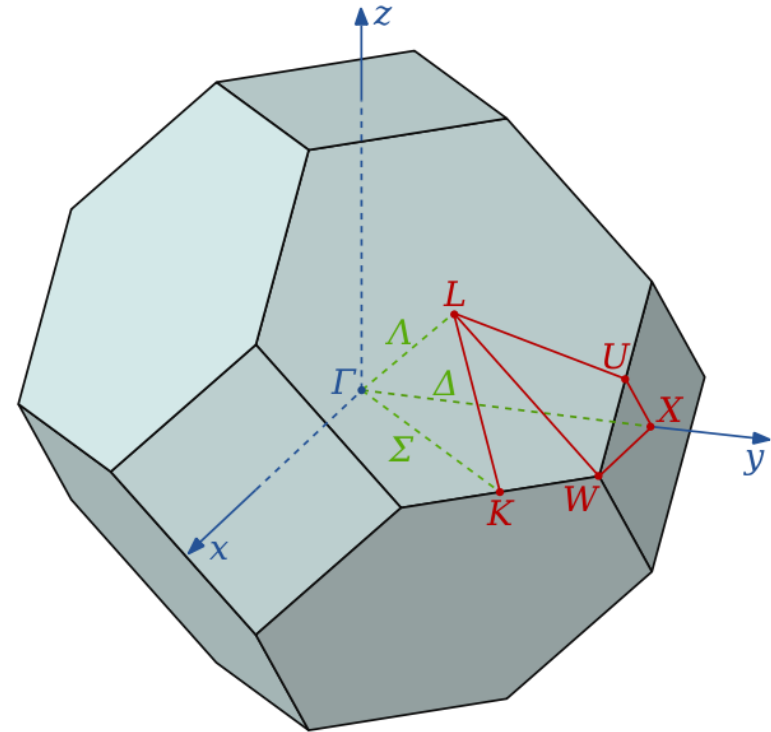
reciprocal space





1.BZ

Wichtige hochsymmetrische Punkte des fcc-Gitters



Γ -Punkt: Das Zentrum der 1. BZ

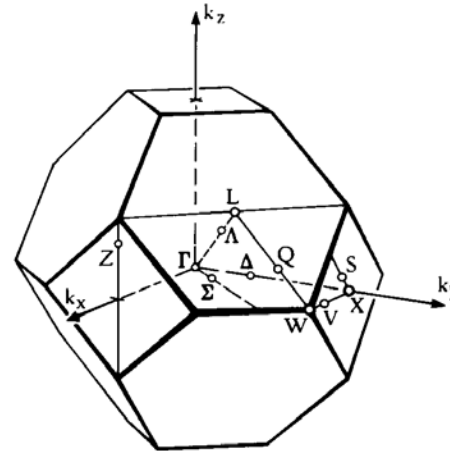
X-Punkt: Der Schnittpunkt der Achse $[100]$ mit dem Rand der 1. BZ

L-Punkt: Der Schnittpunkt der Raumdiagonale $[111]$ mit dem Rand der 1. BZ

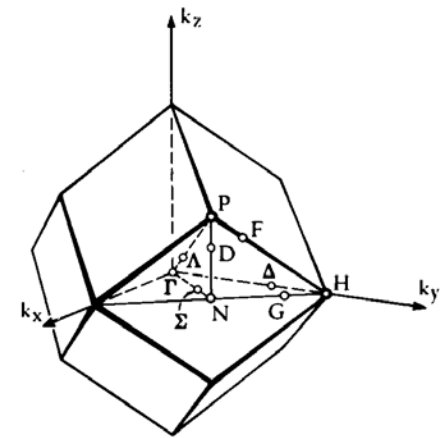
K-Punkt: Der Schnittpunkt der Diagonalen in einer Ebene $[110]$ mit dem Rand der 1. BZ

Critical points of Brillouin zone

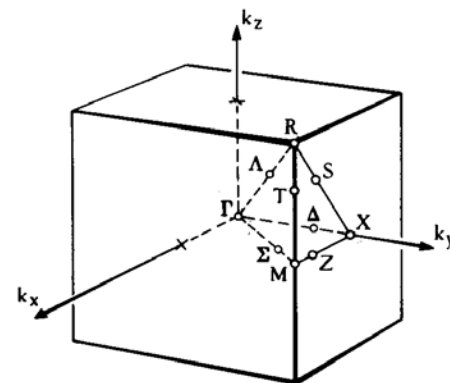
Symbol	Description
Γ	Center of the Brillouin zone
Simple cube	
M	Center of an edge
R	Corner point
X	Center of a face
Face-centered cubic	
K	Middle of an edge joining two hexagonal faces
L	Center of a hexagonal face
U	Middle of an edge joining a hexagonal and a square face
W	Corner point
X	Center of a square face
Body-centered cubic	
H	Corner point joining four edges
N	Center of a face
P	Corner point joining three edges
Hexagonal	
A	Center of a hexagonal face
H	Corner point
K	Middle of an edge joining two rectangular faces
L	Middle of an edge joining a hexagonal and a rectangular face
M	Center of a rectangular face



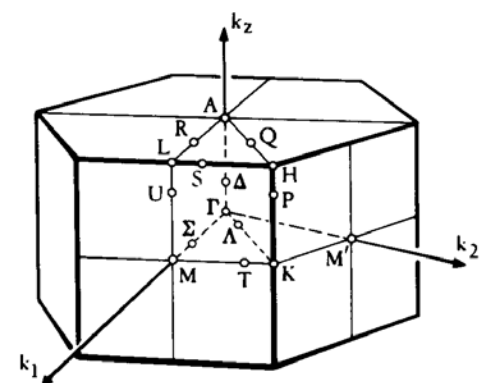
fcc FACE CENTERED CUBIC



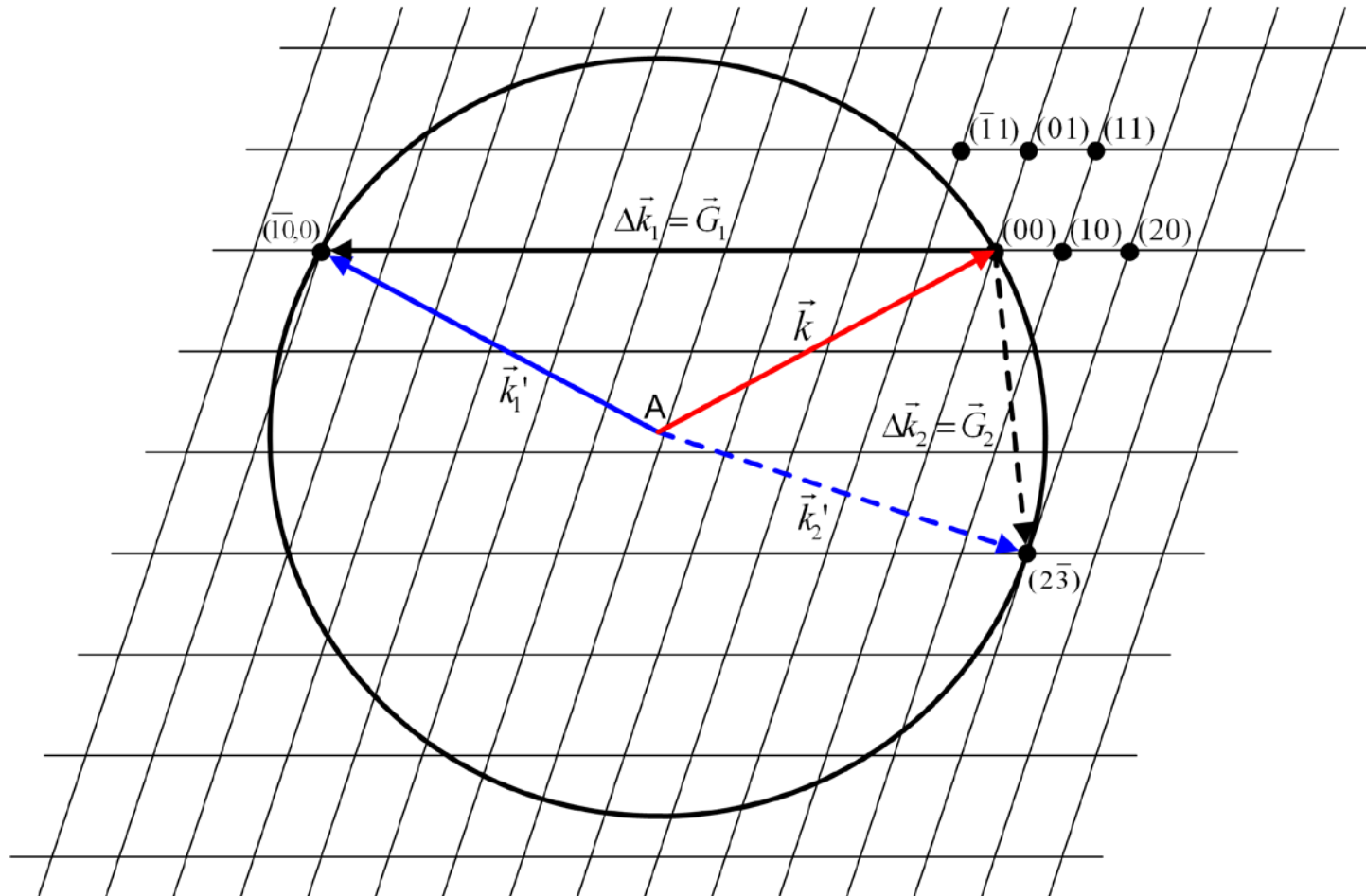
bcc BODY CENTERED CUBIC



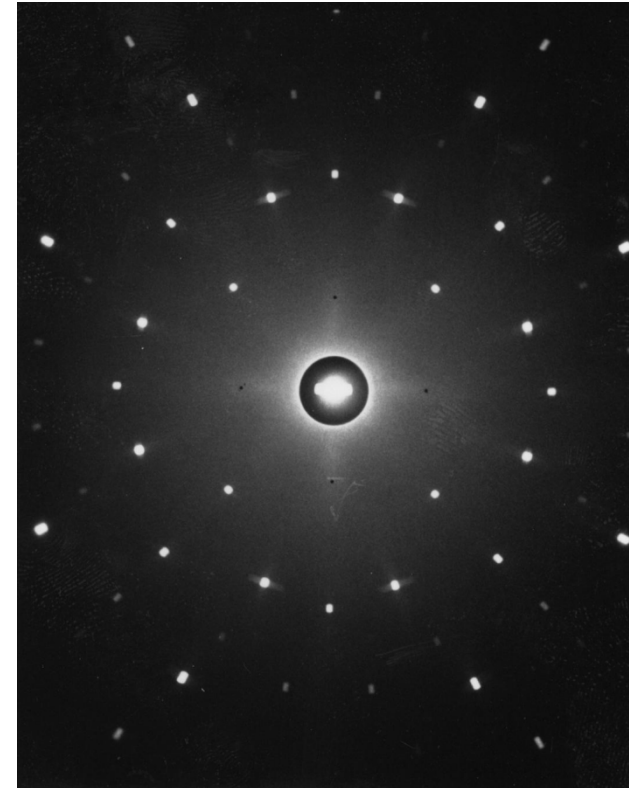
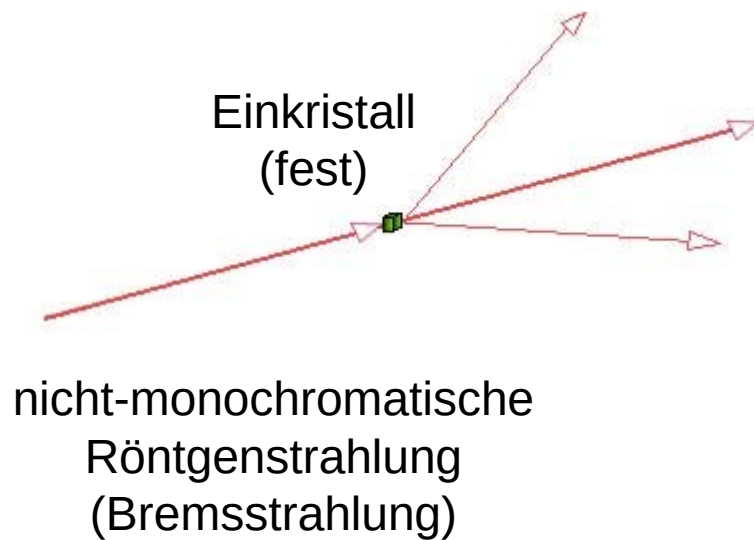
SC SIMPLE CUBIC



hcp HEXAGONAL

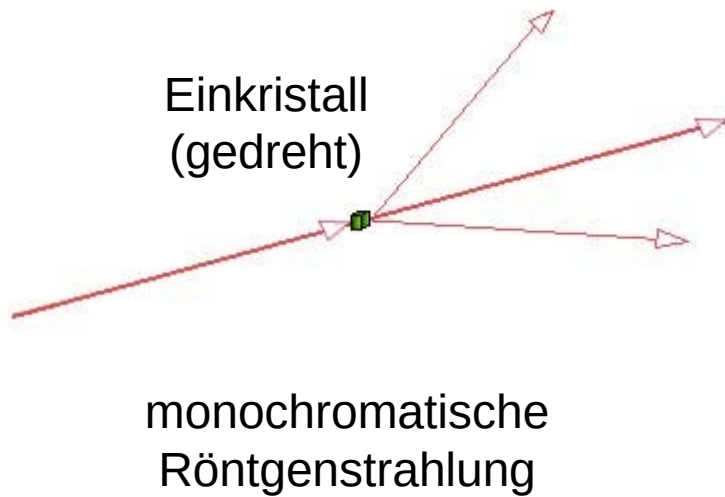


Orientierung von Einkristallen

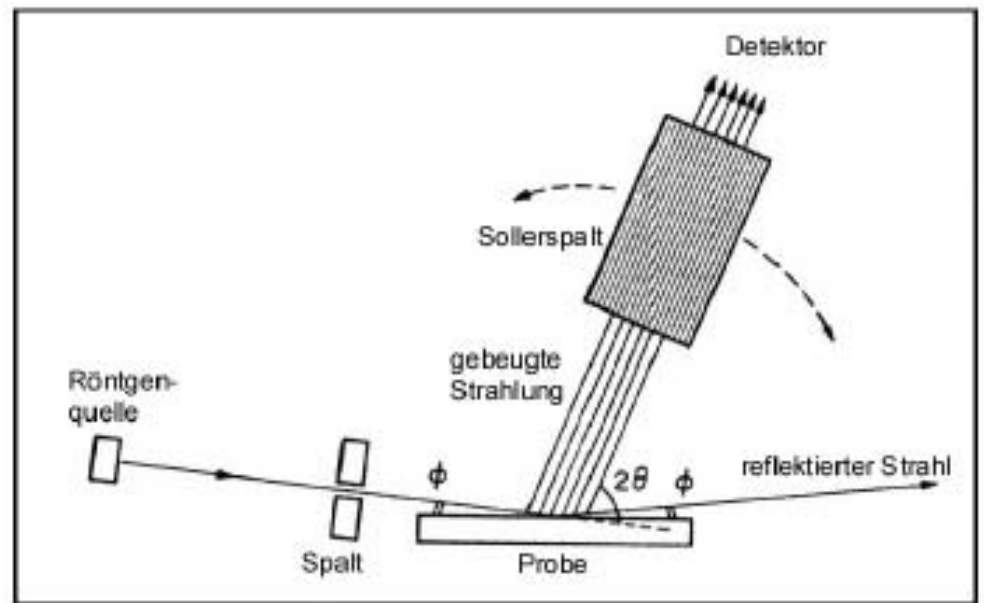


Durchstrahlaufnahme von
[001]-Siliziumkristall

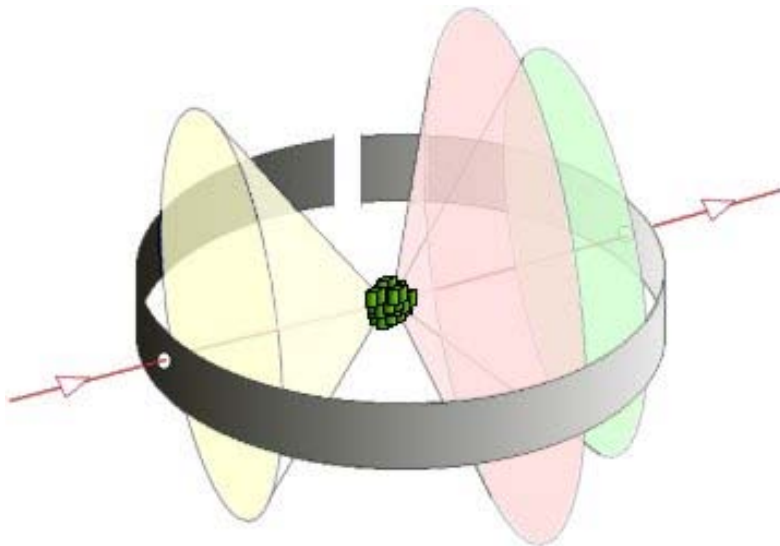
Aufklärung von Kristallstrukturen



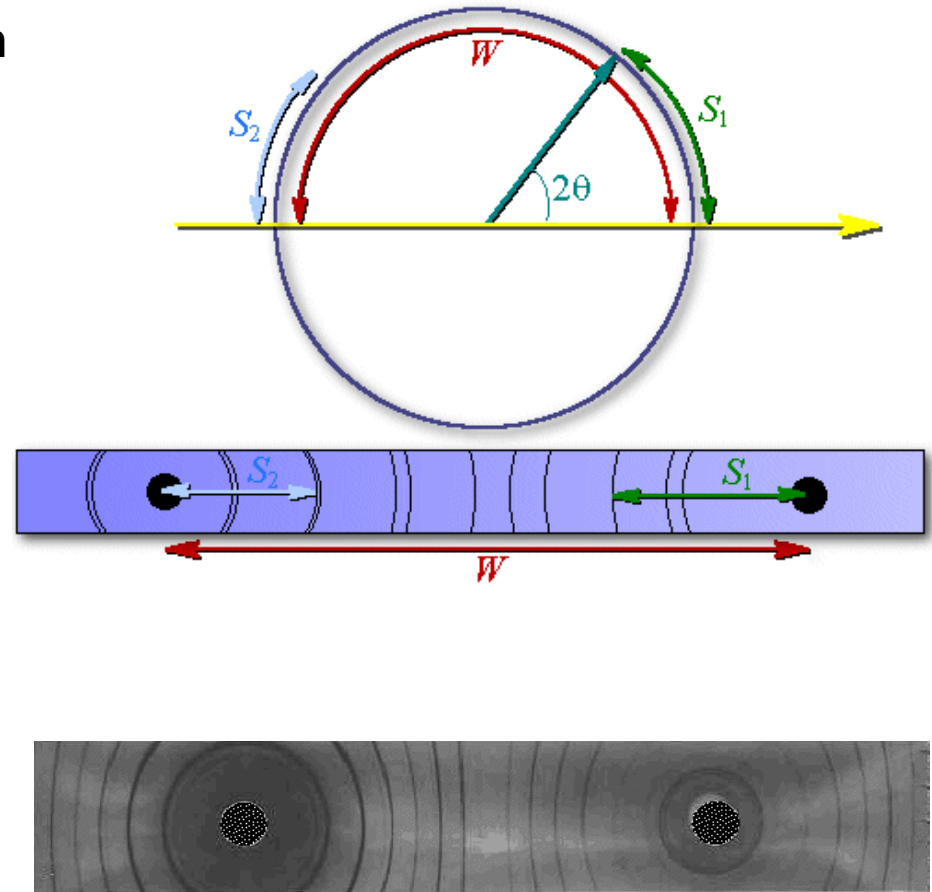
Röntgendiffraktometrie



Bestimmung von Gitterkonstanten kristalliner Proben



Polykristall oder Pulver



Fotofilm