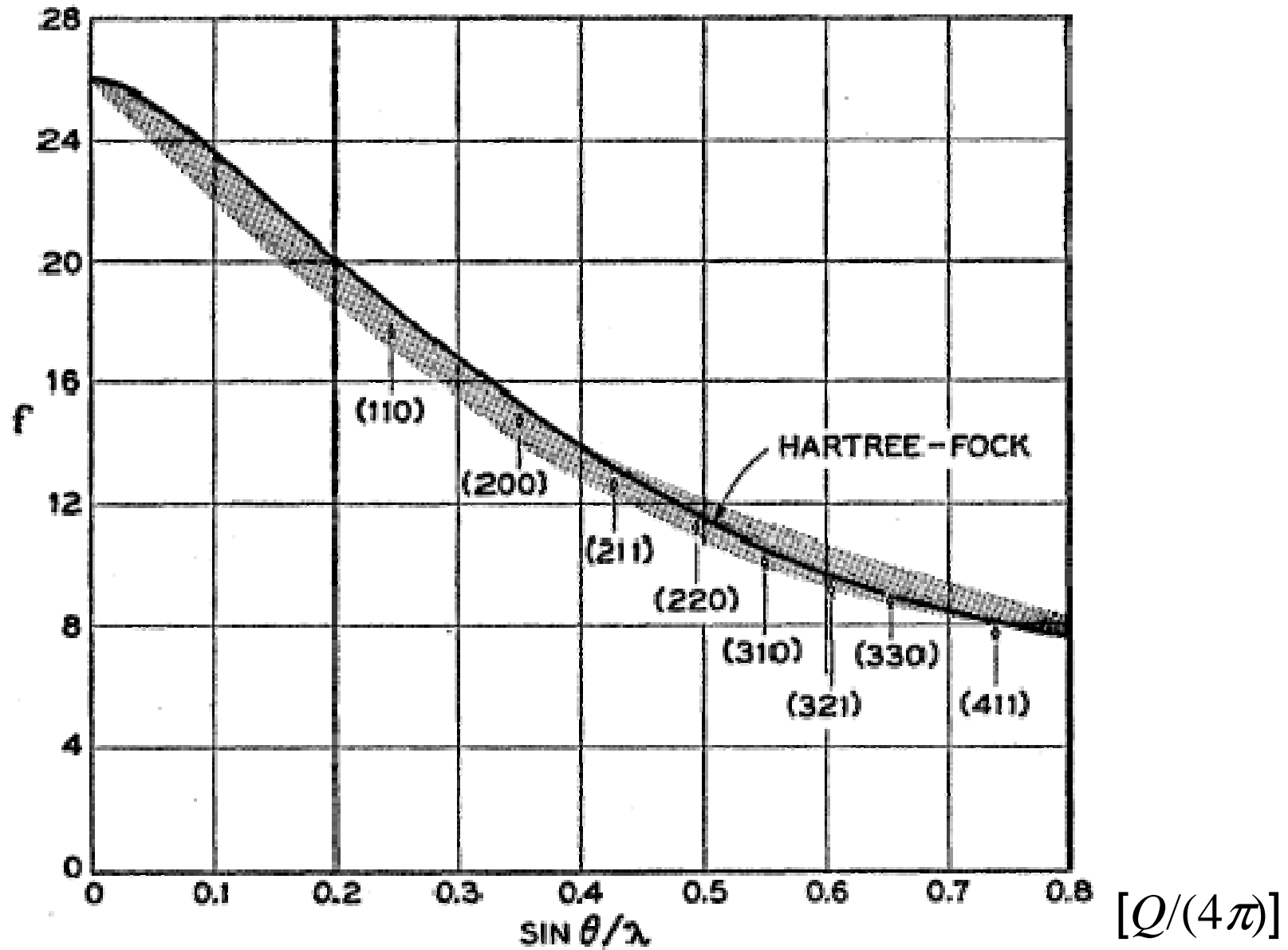
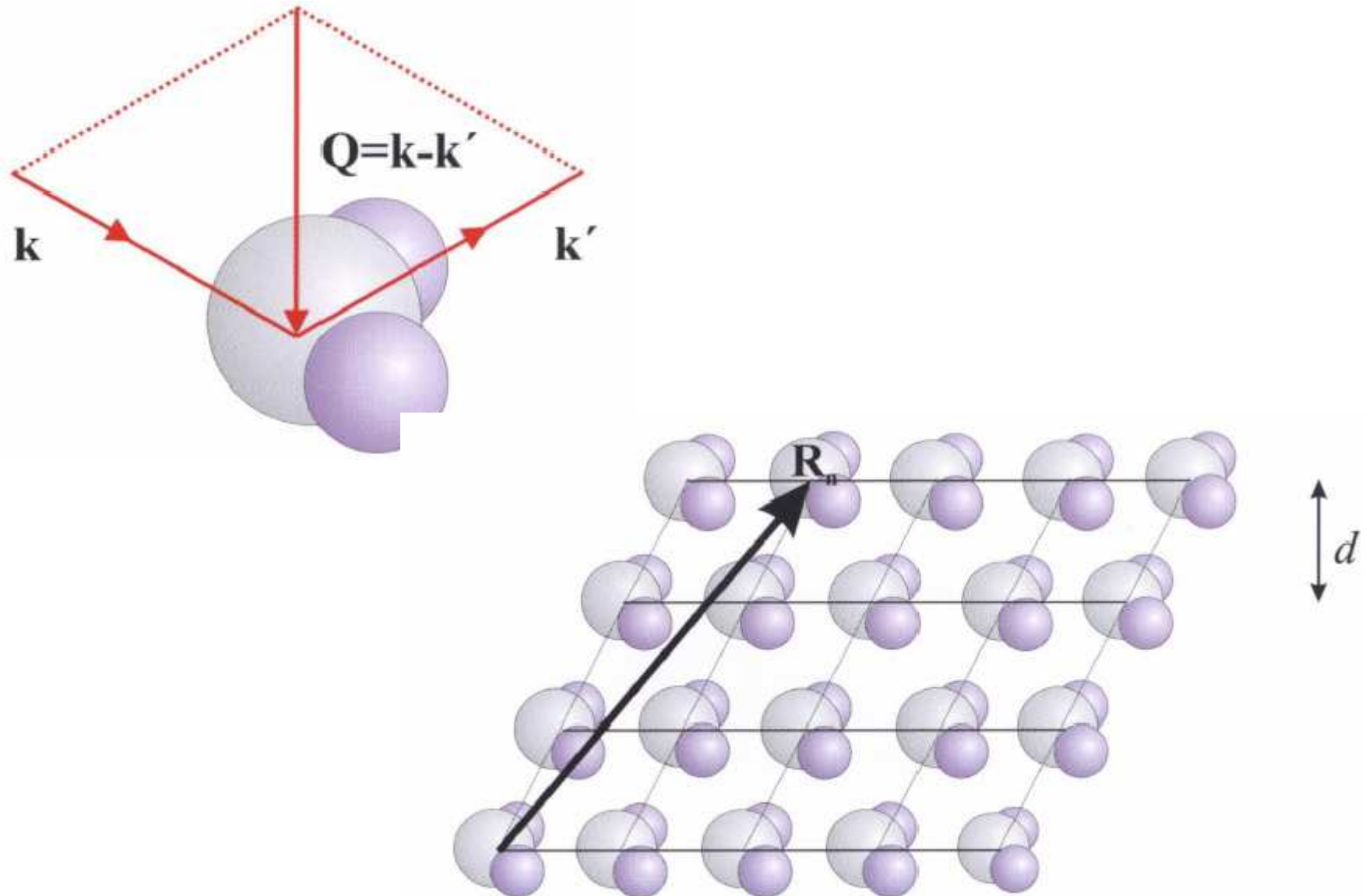


Röntgen-Atomformfaktor für Eisen ($Z = 26$)



B. W. Batterman *et al.*, *Phys. Rev.* **122**, 68 (1961)

Röntgenstreuung an Molekül und Kristall



Reziprokes Gitter: Fouriertransformation

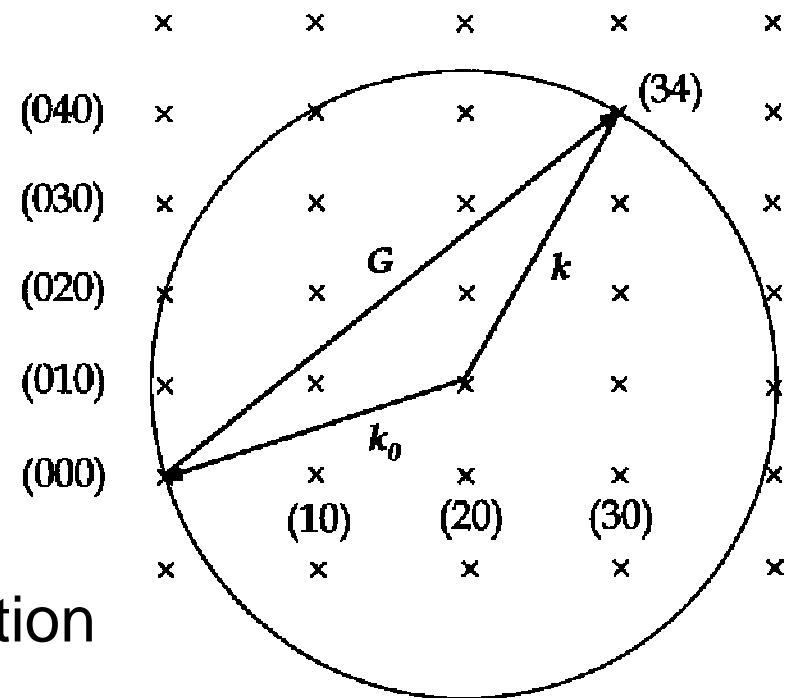
reziproker Gittervektor $\vec{G} = h\vec{a}^* + k\vec{b}^* + l\vec{c}^*$

mit $\vec{a}^* = 2\pi \frac{\vec{b} \times \vec{c}}{\vec{a} \cdot (\vec{b} \times \vec{c})}$ etc.

steht senkrecht auf Ebene (hkl)

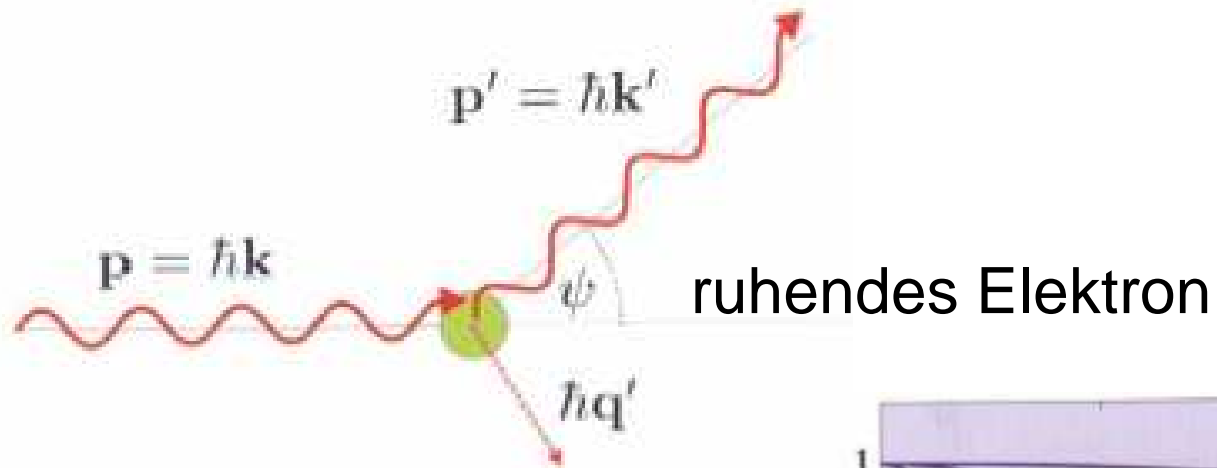
Beugungsbedingung

$$\vec{Q} = \vec{G}$$

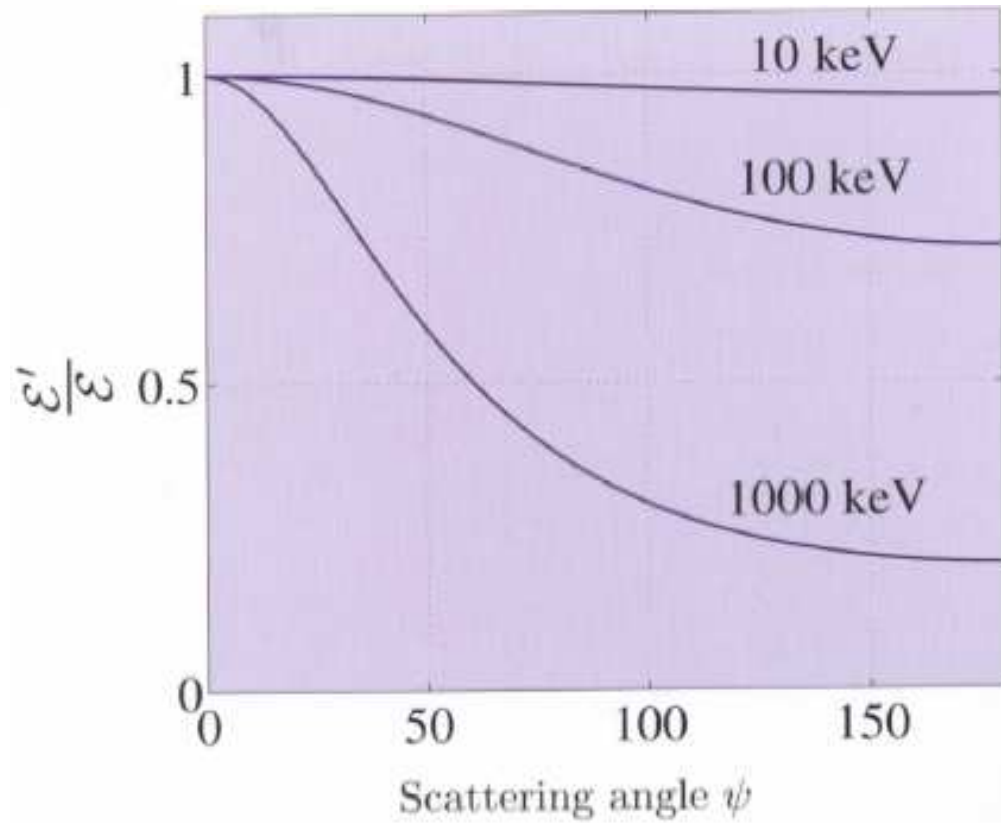


Ewaldkonstruktion

Compton-Streuung

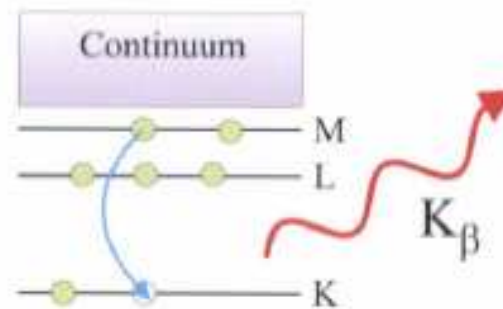
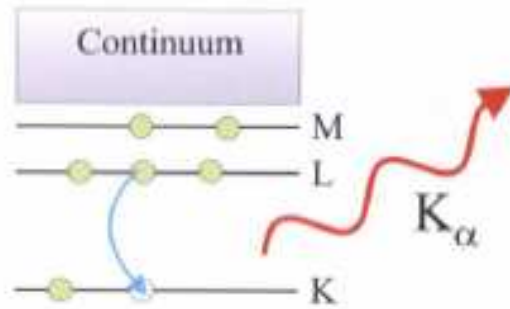
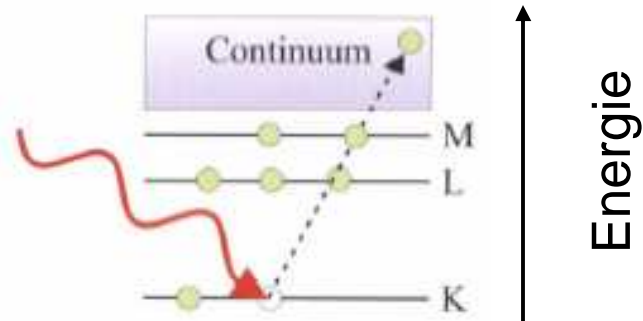


Energieänderung

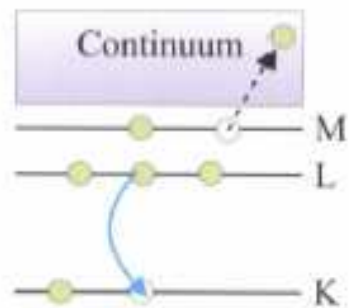


Absorption von Röntgenstrahlung

photoelektrische
Absorption



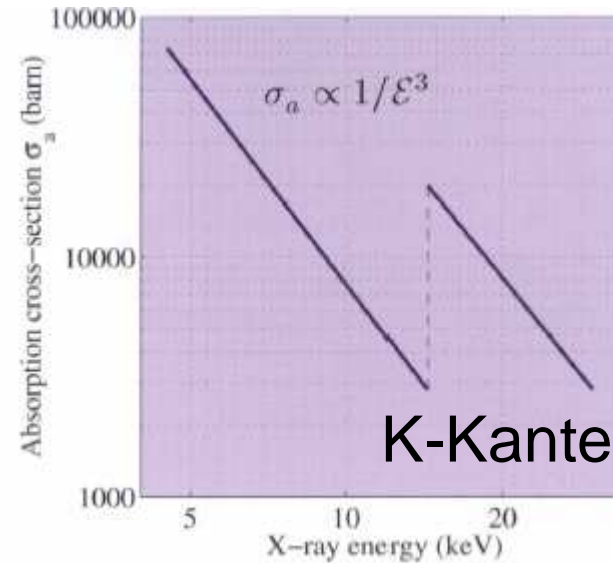
Fluoreszenz-
Emission



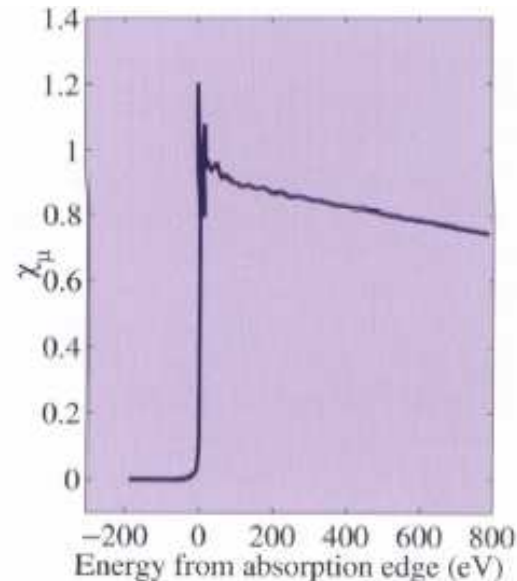
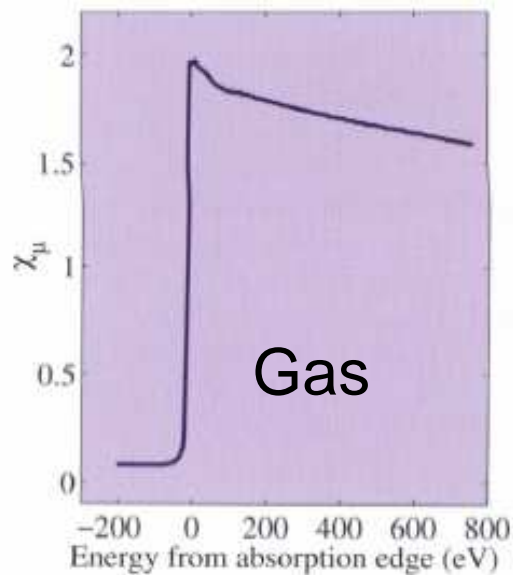
Emission eines Auger-Elektrons

Röntgen-Absorptionsquerschnitt

Absorptionsquerschnitt
von Krypton



Feinstruktur (EXAFS)
an der Kr K-Kante



2D-Kristall
(adsorbiert
auf Graphit)