

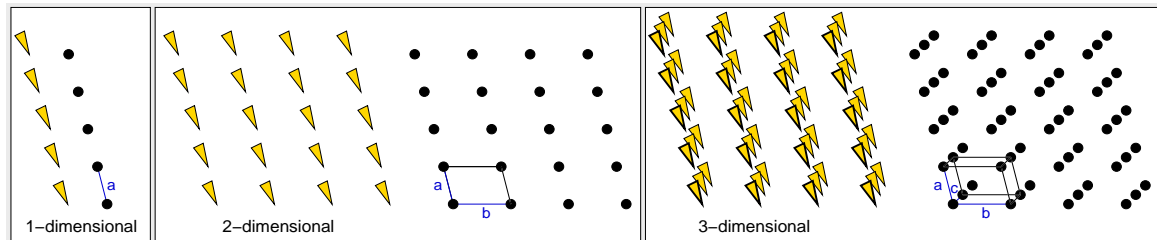
## 2. Kristallographie

### 2.1. Punktgruppen und Kristallklassen

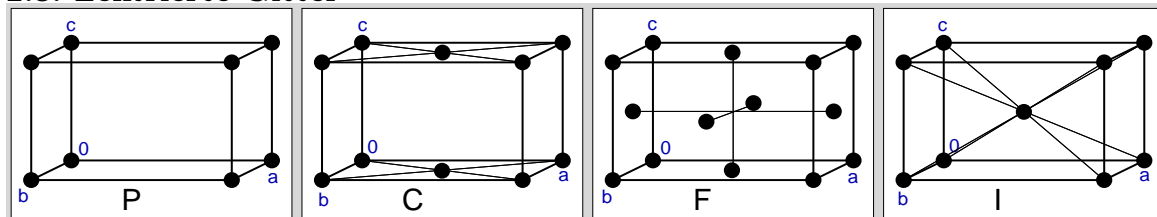
Tabelle der 3-dimensionalen Punktgruppen/Kristallklassen

Nr.	Herman-Mauguin		Schönflies	Koordinatensystem	Nr.	Herman-Mauguin		Schönflies	Koordinatensystem
	Kurzsymbol	Langsymbol				Kurzsymbol	Langsymbol		
1	$\bar{1}$	$\bar{1}$	$C_1$	triklin ( $a \neq b \neq c; \alpha \neq \beta \neq \gamma$ )	16	$\bar{3}$	$\bar{3}$	$C_3$	trigonal (hexagonale A.)
2	$\bar{1}$	$\bar{1}$	$C_i$		17	$\bar{3}$	$\bar{3}$	$S_6$	(hexagonale A.)
3	m	1m1	$C_s$	monoklin ( $a \neq b \neq c,$ $\alpha = \gamma = 90^\circ; \beta \neq 90^\circ$ )	18	3m1	3m1	$C_{3v}$	( $a = b \neq c$ $\alpha = \beta = 90^\circ;$ $\gamma = 120^\circ$ )
4	2	121	$C_2$		19	321	321	$D_3$	
5	$\frac{2}{m}$	$1\frac{2}{m}1$	$C_{2h}$		20	$\bar{3}m1$	$\bar{3}\frac{2}{m}1$	$D_{3d}$	
6	mm2	mm2	$C_{2v}$	orthorhombisch ( $a \neq b \neq c,$ $\alpha = \beta = \gamma = 90^\circ$ )	21	6	6	$C_6$	hexagonal ( $a = b \neq c$ $\alpha = \beta = 90^\circ;$ $\gamma = 120^\circ$ )
7	222	222	$D_2$		22	$\bar{6}$	$\bar{6}$	$C_{3h}$	
8	mmm	$\frac{2}{m}\frac{2}{m}\frac{2}{m}$	$D_{2h}$		23	$\frac{6}{m}$	$\frac{6}{m}$	$C_{6h}$	
9	4	4	$C_4$	tetragonal ( $a = b \neq c$ $\alpha = \beta = \gamma = 90^\circ$ )	24	$\bar{6}m2$	$\bar{6}m2$	$D_{3h}$	
10	$\frac{4}{m}$	$\frac{4}{m}$	$S_4$		25	6mm	6mm	$C_{6v}$	
11	$\frac{4}{m}$	$\frac{4}{m}$	$C_{4h}$		26	622	622	$D_6$	
12	4mm	4mm	$C_{4v}$		27	$\frac{6}{m}mm$	$\frac{6}{m}\frac{2}{m}\frac{2}{m}$	$D_{6h}$	
13	$\bar{4}2m$	$\bar{4}2m$	$D_{2d}$		28	23	23	T	kubisch ( $a = b = c$ $\alpha = \beta = \gamma = 90^\circ$ )
14	422	422	$D_4$		29	$m\bar{3}$	$\frac{2}{m}\bar{3}$	$T_h$	
15	$\frac{4}{m}mm$	$\frac{4}{m}\frac{2}{m}\frac{2}{m}$	$D_{4h}$		30	$\bar{4}3m$	$\bar{4}3m$	$T_d$	
					31	432	432	O	
					32	$m\bar{3}m$	$\frac{4}{m}\bar{3}\frac{2}{m}$	$O_h$	

### 2.2. Translation als Symmetrieoperation



### 2.3. Zentrierte Gitter



### 2.4. Raumgruppen

