Grupy bez osy symetrie

$\mathcal{C}_1$	$\hat{E}$
A	1

$\mathcal{C}_i$	$\hat{E}$	$\hat{i}$		
A_g	1	1	R_x, R_y, R_z	$\begin{cases} x^2, y^2, z^2 \\ xy, xz, yz \end{cases}$
A_u	1	-1	x, y, z	

$\mathcal{C}_S$	$\hat{E}$	$\hat{\sigma}_h$		
A^+	1	1	x, y, R_z	$\begin{cases} x^2, y^2 \\ z^2, xy \end{cases}$
A^-	1	-1	z, R_x, R_y	yz, xz

$\mathcal{C}_n$ Grupy

$\mathcal{C}_2$	$\hat{E}$	$\hat{C}_2$		
A	1	1	z, R_z	x^2, y^2, z^2, xy
B	1	-1	x, y, R_x, R_y	yz, xz

$\mathcal{C}_3$	$\hat{E}$	$\hat{C}_3$	$\hat{C}_3^2$	$\varepsilon = \exp[2\pi i/3]$	
A	1	1	1	z, R_z	$x^2 + y^2, z^2$
E	$\begin{cases} 1 \\ 1 \end{cases}$ $\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$ $\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$			$\begin{matrix} x+iy, R_x+iR_y \\ x-iy, R_x-iR_y \end{matrix}\Big\}$	$\begin{matrix} (x^2-y^2, xy) \\ (yz, xz) \end{matrix}$

$\mathcal{C}_4$	$\hat{E}$	$\hat{C}_4$	$\hat{C}_2$	$\hat{C}_4^3$		
A	1	1	1	1	z, R_z	x^2+y^2, z^2
B	1	-1	1	-1		x^2-y^2, xy
E	$\begin{cases} 1 \\ 1 \end{cases}$ $\begin{matrix} i \\ -i \end{matrix}$ $\begin{matrix} -1 \\ -1 \end{matrix}$ $\begin{matrix} -i \\ i \end{matrix}$				$\begin{matrix} x+iy, R_x+iR_y \\ x-iy, R_x-iR_y \end{matrix}\Big\}$	(yz, xz)

$\mathcal{C}_5$	$\hat{E}$	$\hat{C}_5$	$\hat{C}_5^2$	$\hat{C}_5^3$	$\hat{C}_5^4$	$\varepsilon = \exp[2\pi i/5]$	
A	1	1	1	1	1	z, R_z	x^2+y^2, z^2
E_1	$\begin{cases} 1 \\ 1 \end{cases}$ $\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$ $\begin{matrix} \varepsilon^2 \\ \varepsilon^{*2} \end{matrix}$ $\begin{matrix} \varepsilon^{*2} \\ \varepsilon^* \end{matrix}$ $\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$					$\begin{matrix} x+iy, R_x+iR_y \\ x-iy, R_x-iR_y \end{matrix}\Big\}$	(yz, xz)
E_2	$\begin{cases} 1 \\ 1 \end{cases}$ $\begin{matrix} \varepsilon^2 \\ \varepsilon^{*2} \end{matrix}$ $\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$ $\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$ $\begin{matrix} \varepsilon^{*2} \\ \varepsilon^2 \end{matrix}$						(x^2-y^2, xy)

$\mathcal{C}_6$	$\hat{E}$	$\hat{C}_6$	$\hat{C}_3$	$\hat{C}_2$	$\hat{C}_3^2$	$\hat{C}_6^5$	$\varepsilon = \exp[2\pi i/6]$	
A	1	1	1	1	1	1	z, R_z	x^2+y^2, z^2
B	1	-1	1	-1	1	-1		
E_1	$\begin{cases} 1 \\ 1 \end{cases}$ $\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$ $\begin{matrix} -\varepsilon^* \\ -\varepsilon \end{matrix}$ $\begin{matrix} -1 \\ -1 \end{matrix}$ $\begin{matrix} -\varepsilon \\ -\varepsilon^* \end{matrix}$ $\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$						$\begin{matrix} x+iy, R_x+iR_y \\ x-iy, R_x-iR_y \end{matrix}\Big\}$	(xz, yz)
E_2	$\begin{cases} 1 \\ 1 \end{cases}$ $\begin{matrix} -\varepsilon^* \\ -\varepsilon \end{matrix}$ $\begin{matrix} -\varepsilon \\ -\varepsilon^* \end{matrix}$ $\begin{matrix} 1 \\ 1 \end{matrix}$ $\begin{matrix} -\varepsilon^* \\ -\varepsilon \end{matrix}$ $\begin{matrix} -\varepsilon \\ -\varepsilon^* \end{matrix}$							(x^2-y^2, xy)

$\mathcal{C}_7$	$\hat{E}$	$\hat{C}_7$	$\hat{C}_7^2$	$\hat{C}_7^3$	$\hat{C}_7^4$	$\hat{C}_7^5$	$\hat{C}_7^6$	$\varepsilon = \exp[2\pi i/7]$	
A	1	1	1	1	1	1	1	z, R_z	x^2+y^2, z^2
E_1	$\begin{cases} 1 \\ 1 \end{cases}$ $\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$ $\begin{matrix} \varepsilon^2 \\ \varepsilon^{*2} \end{matrix}$ $\begin{matrix} \varepsilon^3 \\ \varepsilon^{*3} \end{matrix}$ $\begin{matrix} \varepsilon^{*3} \\ \varepsilon^3 \end{matrix}$ $\begin{matrix} \varepsilon^{*2} \\ \varepsilon^2 \end{matrix}$ $\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$							$\begin{matrix} x+iy, R_x+iR_y \\ x-iy, R_x-iR_y \end{matrix}\Big\}$	(xz, yz)
E_2	$\begin{cases} 1 \\ 1 \end{cases}$ $\begin{matrix} \varepsilon^2 \\ \varepsilon^{*2} \end{matrix}$ $\begin{matrix} \varepsilon^{*3} \\ \varepsilon^3 \end{matrix}$ $\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$ $\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$ $\begin{matrix} \varepsilon^3 \\ \varepsilon^{*3} \end{matrix}$ $\begin{matrix} \varepsilon^{*2} \\ \varepsilon^2 \end{matrix}$								(x^2-y^2, xy)
E_3	$\begin{cases} 1 \\ 1 \end{cases}$ $\begin{matrix} \varepsilon^3 \\ \varepsilon^{*3} \end{matrix}$ $\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$ $\begin{matrix} \varepsilon^2 \\ \varepsilon^{*2} \end{matrix}$ $\begin{matrix} \varepsilon^{*2} \\ \varepsilon^2 \end{matrix}$ $\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$ $\begin{matrix} \varepsilon^{*3} \\ \varepsilon^3 \end{matrix}$								

$\mathcal{C}_8$	$\hat{E}$	$\hat{C}_8$	$\hat{C}_4$	$\hat{C}_8^3$	$\hat{C}_2$	$\hat{C}_8^5$	$\hat{C}_4^3$	$\hat{C}_8^7$	$\varepsilon = \exp[2\pi i/8]$	
A	1	1	1	1	1	1	1	1	z, R_z	x^2+y^2, z^2
B	1	-1	1	-1	1	-1	1	-1		
E_1	$\begin{cases} 1 \\ 1 \end{cases}$ $\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$ $\begin{matrix} i \\ -i \end{matrix}$ $\begin{matrix} -\varepsilon^* \\ -\varepsilon \end{matrix}$ $\begin{matrix} -1 \\ -1 \end{matrix}$ $\begin{matrix} -\varepsilon \\ -\varepsilon^* \end{matrix}$ $\begin{matrix} -i \\ i \end{matrix}$ $\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$								$\begin{matrix} x+iy, R_x+iR_y \\ x-iy, R_x-iR_y \end{matrix}\Big\}$	(xz, yz)
E_2	$\begin{cases} 1 \\ 1 \end{cases}$ $\begin{matrix} i \\ -i \end{matrix}$ $\begin{matrix} -1 \\ -1 \end{matrix}$ $\begin{matrix} -i \\ i \end{matrix}$ $\begin{matrix} 1 \\ 1 \end{matrix}$ $\begin{matrix} i \\ -i \end{matrix}$ $\begin{matrix} -1 \\ -1 \end{matrix}$ $\begin{matrix} -i \\ i \end{matrix}$									(x^2-y^2, xy)
E_3	$\begin{cases} 1 \\ 1 \end{cases}$ $\begin{matrix} -\varepsilon \\ -\varepsilon^* \end{matrix}$ $\begin{matrix} i \\ -i \end{matrix}$ $\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$ $\begin{matrix} -1 \\ -1 \end{matrix}$ $\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$ $\begin{matrix} -i \\ i \end{matrix}$ $\begin{matrix} -\varepsilon^* \\ -\varepsilon \end{matrix}$									

$\mathcal{C}_{\mathrm{nv}}$ Grupy

$\mathcal{C}_{2v}$	Ê	Ĉ$_2$	$\hat{\sigma}_{\mathrm{v}}(xz)$	$\hat{\sigma}_{\mathrm{v}}'(yz)$		
A$_1$	1	1	1	1	z	x^2, y^2, z^2
A$_2$	1	1	-1	-1	R_z	xy
B$_1$	1	-1	1	-1	x, R_y	xz
B$_2$	1	-1	-1	1	y, R_x	yz

$\mathcal{C}_{3v}$	Ê	$2\hat{C}_3$	$3\hat{\sigma}_{\mathrm{v}}$		
A$_1$	1	1	1	z	x^2+y^2, z^2
A$_2$	1	1	-1	R_z	
E	2	-1	0	$(x,y), (R_x, R_y)$	$(x^2-y^2, xy), (xz, yz)$

$\mathcal{C}_{4v}$	Ê	$2\hat{C}_4$	$\hat{C}_2$	$2\hat{\sigma}_{\mathrm{v}}$	$2\hat{\sigma}_{\mathrm{d}}$		
A$_1$	1	1	1	1	1	z	x^2+y^2, z^2
A$_2$	1	1	1	-1	-1	R_z	
B$_1$	1	-1	1	1	-1		x^2-y^2
B$_2$	1	-1	1	-1	1		xy
E	2	0	-2	0	0	$(x,y), (R_x, R_y)$	(xz, yz)

$\mathcal{C}_{5v}$	Ê	$2\hat{C}_5$	$2\hat{C}_5^2$	$5\hat{\sigma}_{\mathrm{v}}$	$\alpha = 2\cos 72°$	$\beta = 2\cos 144°$
A$_1$	1	1	1	1	z	x^2+y^2, z^2
A$_2$	1	1	1	-1	R_z	
E$_1$	2	α	β	0	$(x,y), (R_x, R_y)$	(xz, yz)
E$_2$	2	β	α	0		(x^2-y^2, xy)

$\mathcal{C}_{6v}$	Ê	$2\hat{C}_6$	$2\hat{C}_3$	$\hat{C}_2$	$3\hat{\sigma}_{\mathrm{v}}$	$3\hat{\sigma}_{\mathrm{d}}$		
A$_1$	1	1	1	1	1	1	z	x^2+y^2, z^2
A$_2$	1	1	1	1	-1	-1	R_z	
B$_1$	1	-1	1	-1	1	-1		
B$_2$	1	-1	1	-1	-1	1		
E$_1$	2	1	-1	-2	0	0	$(x,y), (R_z, R_y)$	(xz, yz)
E$_2$	2	-1	-1	2	0	0		(x^2-y^2, xy)

$\mathcal{C}_{\mathrm{nh}}$ Grupy

$\mathcal{C}_{2h}$	Ê	Ĉ$_2$	î	$\hat{\sigma}_{\mathrm{h}}$		
A$_g$	1	1	1	1	R_z	x^2, y^2, z^2, xy
B$_g$	1	-1	1	-1	R_x, R_y	xz, yz
A$_u$	1	1	-1	-1	z	
B$_u$	1	-1	-1	1	x, y	

$\mathcal{C}_{3h}$	Ê	Ĉ$_3$	$\hat{C}_3^2$	$\hat{\sigma}_{\mathrm{h}}$	$\hat{S}_3$	$\hat{S}_3^5$	$\varepsilon = \exp[2\pi i/3]$	
A$'$	1	1	1	1	1	1	R_z	x^2+y^2, z^2
E$'$	$\begin{matrix}1 \\ 1\end{matrix}$	$\begin{matrix}\varepsilon \\ \varepsilon^*\end{matrix}$	$\begin{matrix}\varepsilon^* \\ \varepsilon\end{matrix}$	$\begin{matrix}1 \\ 1\end{matrix}$	$\begin{matrix}\varepsilon \\ \varepsilon^*\end{matrix}$	$\begin{matrix}\varepsilon^* \\ \varepsilon\end{matrix}$	$\left.\begin{matrix}x+iy \\ x-iy\end{matrix}\right\}$	(x^2-y^2, xy)
A$''$	1	1	1	-1	-1	-1	z	
E$''$	$\begin{matrix}1 \\ 1\end{matrix}$	$\begin{matrix}\varepsilon \\ \varepsilon^*\end{matrix}$	$\begin{matrix}\varepsilon^* \\ \varepsilon\end{matrix}$	$\begin{matrix}-1 \\ -1\end{matrix}$	$\begin{matrix}-\varepsilon \\ -\varepsilon^*\end{matrix}$	$\begin{matrix}-\varepsilon^* \\ -\varepsilon\end{matrix}$	$\left.\begin{matrix}R_x+iR_y \\ R_x-iR_y\end{matrix}\right\}$	(xz, yz)

$\mathcal{C}_{4h}$	Ê	Ĉ$_4$	Ĉ$_2$	$\hat{C}_4^3$	î	$\hat{S}_4^3$	$\hat{\sigma}_{\mathrm{h}}$	$\hat{S}_4$		
A$_g$	1	1	1	1	1	1	1	1	R_z	x^2+y^2, z^2
B$_g$	1	-1	1	-1	1	-1	1	-1		x^2-y^2, xy
E$_g$	$\begin{matrix}1 \\ 1\end{matrix}$	$\begin{matrix}i \\ -i\end{matrix}$	$\begin{matrix}-1 \\ -1\end{matrix}$	$\begin{matrix}-i \\ i\end{matrix}$	$\begin{matrix}1 \\ 1\end{matrix}$	$\begin{matrix}i \\ -i\end{matrix}$	$\begin{matrix}-1 \\ -1\end{matrix}$	$\begin{matrix}-i \\ i\end{matrix}$	$\left.\begin{matrix}R_x+iR_y \\ R_x-iR_y\end{matrix}\right\}$	(xz, yz)
A$_u$	1	1	1	1	-1	-1	-1	-1	z	
B$_u$	1	-1	1	-1	-1	1	-1	1		
E$_u$	$\begin{matrix}1 \\ 1\end{matrix}$	$\begin{matrix}i \\ -i\end{matrix}$	$\begin{matrix}-1 \\ -1\end{matrix}$	$\begin{matrix}-i \\ i\end{matrix}$	$\begin{matrix}-1 \\ -1\end{matrix}$	$\begin{matrix}-i \\ i\end{matrix}$	$\begin{matrix}1 \\ 1\end{matrix}$	$\begin{matrix}i \\ -i\end{matrix}$	$\left.\begin{matrix}x+iy \\ x-iy\end{matrix}\right\}$	

$\mathcal{D}_\mathrm{n}$ Grupy

$\mathcal{D}_2$	$\hat{\mathrm{E}}$	$\hat{\mathrm{C}}_2$	$\hat{\mathrm{C}}_2(y)$	$\hat{\mathrm{C}}_2(x)$		
A	1	1	1	1		x^2, y^2, z^2
B$_1$	1	1	-1	-1	z, R_z	xy
B$_2$	1	-1	1	-1	y, R_y	xz
B$_3$	1	-1	-1	1	x, R_x	yz

$\mathcal{D}_3$	$\hat{\mathrm{E}}$	$2\hat{\mathrm{C}}_3$	$3\hat{\mathrm{C}}_2'$		
A$_1$	1	1	1		$x^2 + y^2, z^2$
A$_2$	1	1	-1	z, R_z	
E	2	-1	0	$(x,y), (R_x, R_y)$	$(x^2 - y^2, xy), (xz, yz)$

$\mathcal{D}_4$	$\hat{\mathrm{E}}$	$2\hat{\mathrm{C}}_4$	$\hat{\mathrm{C}}_2(=\hat{\mathrm{C}}_4^2)$	$2\hat{\mathrm{C}}_2'$	$2\hat{\mathrm{C}}_2''$		
A$_1$	1	1	1	1	1		$x^2 + y^2, z^2$
A$_2$	1	1	1	-1	-1	z, R_z	
B$_1$	1	-1	1	1	-1		$x^2 - y^2$
B$_2$	1	-1	1	-1	1		xy
E	2	0	-2	0	0	$(x,y), (R_x, R_y)$	(xz, yz)

$\mathcal{D}_5$	$\hat{\mathrm{E}}$	$2\hat{\mathrm{C}}_5$	$2\hat{\mathrm{C}}_5^2$	$5\hat{\mathrm{C}}_2'$	$\alpha = 2\cos 72°$	$\beta = 2\cos 144°$
A$_1$	1	1	1	1		$x^2 + y^2, z^2$
A$_2$	1	1	1	-1	z, R_z	
E$_1$	2	α	β	0	$(x,y), (R_x, R_y)$	(xz, yz)
E$_2$	2	β	α	0		$(x^2 - y^2, xy)$

$\mathcal{D}_6$	$\hat{\mathrm{E}}$	$2\hat{\mathrm{C}}_6$	$2\hat{\mathrm{C}}_3$	$\hat{\mathrm{C}}_2$	$3\hat{\mathrm{C}}_2'$	$3\hat{\mathrm{C}}_2''$		
A$_1$	1	1	1	1	1	1		$x^2 + y^2, z^2$
A$_2$	1	1	1	1	-1	-1	z, R_z	
B$_1$	1	-1	1	-1	1	-1		
B$_2$	1	-1	1	-1	-1	1		
E$_1$	2	1	-1	-2	0	0	$(x,y), (R_x, R_y)$	(xz, yz)
E$_2$	2	-1	-1	2	0	0		$(x^2 - y^2, xy)$

$\mathcal{D}_\mathrm{nd}$ grupy

$\mathcal{D}_{2d}$	$\hat{\mathrm{E}}$	$2\hat{\mathrm{S}}_4$	$\hat{\mathrm{C}}_2$	$2\hat{\mathrm{C}}_2'$	$2\hat{\sigma}_\mathrm{d}$		
A$_1$	1	1	1	1	1		$x^2 + y^2, z^2$
A$_2$	1	1	1	-1	-1	R_z	
B$_1$	1	-1	1	1	-1		$x^2 - y^2$
B$_2$	1	-1	1	-1	1	z	xy
E	2	0	-2	0	0	$(x,y), (R_x, R_y)$	(xz, yz)

$\mathcal{D}_{3d}$	$\hat{\mathrm{E}}$	$2\hat{\mathrm{C}}_3$	$3\hat{\mathrm{C}}_2'$	$\hat{\mathrm{i}}$	$2\hat{\mathrm{S}}_6$	$3\hat{\sigma}_\mathrm{d}$		
A$_{1g}$	1	1	1	1	1	1		$x^2 + y^2, z^2$
A$_{2g}$	1	1	-1	1	1	-1	R_z	
E$_g$	2	-1	0	2	-1	0	(R_x, R_y)	$(x^2 - y^2, xy), (xz, yz)$
A$_{1u}$	1	1	1	-1	-1	-1		
A$_{2u}$	1	1	-1	-1	-1	1	z	
E$_u$	2	-1	0	-2	1	0	(x,y)	

$\mathcal{D}_{4d}$	$\hat{\mathrm{E}}$	$2\hat{\mathrm{S}}_8$	$2\hat{\mathrm{C}}_4$	$2\hat{\mathrm{S}}_8^3$	$\hat{\mathrm{C}}_2$	$4\hat{\mathrm{C}}_2'$	$4\hat{\sigma}_\mathrm{d}$		
A$_1$	1	1	1	1	1	1	1		$x^2 + y^2, z^2$
A$_2$	1	1	1	1	1	-1	-1	R_z	
B$_1$	1	-1	1	-1	1	1	-1		
B$_2$	1	-1	1	-1	1	-1	1	z	
E$_1$	2	$\sqrt{2}$	0	$-\sqrt{2}$	-2	0	0	(x,y)	
E$_2$	2	0	-2	0	2	0	0		$(x^2 - y^2, xy)$
E$_3$	2	$-\sqrt{2}$	0	$\sqrt{2}$	-2	0	0	(R_x, R_y)	(xz, yz)

$\mathcal{D}_{5d}$	$\hat{\mathrm{E}}$	$2\hat{\mathrm{C}}_5$	$2\hat{\mathrm{C}}_5^2$	$5\hat{\mathrm{C}}_2'$	$\hat{\mathrm{i}}$	$2\hat{\mathrm{S}}_{10}^3$	$2\hat{\mathrm{S}}_{10}$	$5\hat{\sigma}_\mathrm{d}$	$\alpha = 2\cos 72°$	$\beta = 2\cos 144°$
A$_{1g}$	1	1	1	1	1	1	1	1		$x^2 + y^2, z^2$
A$_{2g}$	1	1	1	-1	1	1	1	-1	R_z	
E$_{1g}$	2	α	β	0	2	α	β	0	(R_x, R_y)	(xz, yz)
E$_{2g}$	2	β	α	0	2	β	α	0		$(x^2 - y^2, xy)$
A$_{1u}$	1	1	1	1	-1	-1	-1	-1		
A$_{2u}$	1	1	1	-1	-1	-1	-1	1	z	
E$_{1u}$	2	α	β	0	-2	$-\alpha$	$-\beta$	0	(x,y)	
E$_{2u}$	2	β	α	0	-2	$-\beta$	$-\alpha$	0		

$\mathcal{D}_{6d}$	$\hat{E}$	$2\hat{S}_{12}$	$2\hat{C}_6$	$2\hat{S}_4$	$2\hat{C}_3$	$2\hat{S}_{12}^5$	$\hat{C}_2$	$6\hat{C}_2'$	$6\hat{\sigma}_d$		
A_1	1	1	1	1	1	1	1	1	1		x^2+y^2, z^2
A_2	1	1	1	1	1	1	1	-1	-1	R_z	
B_1	1	-1	1	-1	1	-1	1	1	-1		
B_2	1	-1	1	-1	1	-1	1	-1	1	z	
E_1	2	$\sqrt{3}$	1	0	-1	$-\sqrt{3}$	-2	0	0	(x,y)	
E_2	2	1	-1	-2	-1	1	2	0	0		(x^2-y^2, xy)
E_3	2	0	-2	0	2	0	-2	0	0		
E_4	2	-1	-1	2	-1	-1	2	0	0		
E_5	2	$-\sqrt{3}$	1	0	-1	$\sqrt{3}$	-2	0	0	(R_x, R_y)	(xz, yz)

Dvacetistěnná grupa

$\mathcal{I}_h$	$\hat{E}$	$12\hat{C}_5$	$12\hat{C}_5^2$	$20\hat{C}_3$	$15\hat{C}_2$	$\hat{i}$	$12\hat{S}_{10}^3$	$12\hat{S}_{10}$	$20\hat{S}_6$	$15\hat{\sigma}$	$\alpha=\frac{1}{2}(1+\sqrt{5})$	$\beta=\frac{1}{2}(1-\sqrt{5})$
A_g	1	1	1	1	1	1	1	1	1	1		$x^2+y^2+z^2$
T_{1g}	3	α	β	0	-1	3	α	β	0	-1	(R_x, R_y, R_z)	
T_{2g}	3	β	α	0	-1	3	β	α	0	-1		
G_g	4	-1	-1	1	0	4	-1	-1	1	0		$\left\{\begin{array}{c} 2z^2-x^2-y^2 \\ x^2-y^2 \\ xy, yz, xz \end{array}\right\}$
H_g	5	0	0	-1	1	5	0	0	-1	1		
A_u	1	1	1	1	1	-1	-1	-1	-1	-1		
T_{1u}	3	α	β	0	-1	-3	$-\alpha$	$-\beta$	0	1	(x,y,z)	
T_{2u}	3	β	α	0	-1	-3	$-\beta$	$-\alpha$	0	1		
G_u	4	-1	-1	1	0	-4	1	1	-1	0		
H_u	5	0	0	-1	1	-5	0	0	1	-1		

$\mathcal{D}_{nh}$ grupy

$\mathcal{D}_{2h}$	$\hat{E}$	$\hat{C}_2$	$\hat{C}_2(y)$	$\hat{C}_2(x)$	$\hat{i}$	$\hat{\sigma}(xy)$	$\hat{\sigma}(xz)$	$\hat{\sigma}(yz)$		
A_g	1	1	1	1	1	1	1	1		x^2, y^2, z^2
B_{1g}	1	1	-1	-1	1	1	-1	-1	R_z	xy
B_{2g}	1	-1	1	-1	1	-1	1	-1	R_y	xz
B_{3g}	1	-1	-1	1	1	-1	-1	1	R_x	yz
A_u	1	1	1	1	-1	-1	-1	-1		
B_{1u}	1	1	-1	-1	-1	-1	1	1	z	
B_{2u}	1	-1	1	-1	-1	1	-1	1	y	
B_{3u}	1	-1	-1	1	-1	1	1	-1	x	

$\mathcal{D}_{3h}$	$\hat{E}$	$2\hat{C}_3$	$3\hat{C}_2$	$\hat{\sigma}_h$	$2\hat{S}_3$	$3\hat{\sigma}_v$		
A_1'	1	1	1	1	1	1		$x^2 + y^2, z^2$
A_2'	1	1	-1	1	1	-1	R_z	
E'	2	-1	0	2	-1	0	(x, y)	$(x^2 - y^2, xy)$
A_1''	1	1	1	-1	-1	-1		
A_2''	1	1	-1	-1	-1	1	z	
E''	2	-1	0	-2	1	0	(R_x, R_y)	(xz, yz)

$\mathcal{D}_{4h}$	$\hat{E}$	$2\hat{C}_4$	$\hat{C}_2$	$2\hat{C}_2'$	$2\mathcal{C}_2''$	$\hat{i}$	$2\hat{S}_4$	$\hat{\sigma}_h$	$2\hat{\sigma}_v$	$2\hat{\sigma}_d$		
A_{1g}	1	1	1	1	1	1	1	1	1	1		$x^2 + y^2, z^2$
A_{2g}	1	1	1	-1	-1	1	1	1	-1	-1	R_z	
B_{1g}	1	-1	1	1	-1	1	-1	1	1	-1		$x^2 - y^2$
B_{2g}	1	-1	1	-1	1	1	-1	1	-1	1		xy
E_g	2	0	-2	0	0	2	0	-2	0	0	(R_x, R_y)	(xz, yz)
A_{1u}	1	1	1	1	1	-1	-1	-1	-1	-1		
A_{2u}	1	1	1	-1	-1	-1	-1	-1	1	1	z	
B_{1u}	1	-1	1	1	-1	-1	1	-1	-1	1		
B_{2u}	1	-1	1	-1	1	-1	1	-1	1	-1		
E_u	2	0	-2	0	0	-2	0	2	0	0	(x, y)	

$\mathcal{D}_{5h}$	$\hat{E}$	$2\hat{C}_5$	$2\hat{C}_5^3$	$5\hat{C}_2'$	$\hat{\sigma}_h$	$2\hat{S}_5$	$2\hat{S}_5^3$	$5\hat{\sigma}_v$	$\alpha = 2\cos 72°$	$\beta = 2\cos 144°$
A_1'	1	1	1	1	1	1	1	1		$x^2 + y^2, z^2$
A_2'	1	1	1	-1	1	1	1	-1	R_z	
E_1'	2	α	β	0	2	α	β	0	(x, y)	
E_2'	2	β	α	0	2	β	α	0		$(x^2 - y^2, xy)$
A_1''	1	1	1	1	-1	-1	-1	-1		
A_2''	1	1	1	-1	-1	-1	-1	1	z	
E_1''	2	α	β	0	-2	$-\alpha$	$-\beta$	0	(R_x, R_y)	(xz, yz)
E_2''	2	β	α	0	-2	$-\beta$	$-\alpha$	0		

$\mathcal{D}_{6h}$	$\hat{E}$	$2\hat{C}_6$	$2\hat{C}_3$	$\hat{C}_2$	$3\hat{C}_2'$	$3\hat{C}_2''$	$\hat{i}$	$2\hat{S}_3$	$2\hat{S}_6$	$\hat{\sigma}_h(xy)$	$3\hat{\sigma}_d$	$3\hat{\sigma}_v$		
A_{1g}	1	1	1	1	1	1	1	1	1	1	1	1		$x^2 + y^2, z^2$
A_{2g}	1	1	1	1	-1	-1	1	1	1	1	-1	-1	R_z	
B_{1g}	1	-1	1	-1	1	-1	1	-1	1	-1	1	-1		
B_{2g}	1	-1	1	-1	-1	1	1	-1	1	-1	-1	1		
E_{1g}	2	1	-1	-2	0	0	2	1	-1	-2	0	0	(R_x, R_y)	(xz, yz)
E_{2g}	2	-1	-1	2	0	0	2	-1	-1	2	0	0		$(x^2 - y^2, xy)$
A_{1u}	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1		
A_{2u}	1	1	1	1	-1	-1	-1	-1	-1	-1	1	1	z	
B_{1u}	1	-1	1	-1	1	-1	-1	1	-1	1	-1	1		
B_{2u}	1	-1	1	-1	-1	1	-1	1	-1	1	1	-1		
E_{1u}	2	1	-1	-2	0	0	-2	-1	1	2	0	0	(x, y)	
E_{2u}	2	-1	-1	2	0	0	-2	1	1	-2	0	0		

$\mathcal{S}_\mathrm{n}$ grupy

$\mathcal{S}_4$	$\hat{\mathrm{E}}$	$\hat{\mathrm{S}}_4$	$\hat{\mathrm{C}}_2$	$\hat{\mathrm{S}}_4^3$		
A	1	1	1	1	R_z	x^2+y^2, z^2
B	1	-1	1	-1	z	x^2-y^2, xy
E	$\begin{cases} 1 \\ 1 \end{cases}$	$\begin{matrix} i \\ -i \end{matrix}$	$\begin{matrix} -1 \\ -1 \end{matrix}$	$\begin{matrix} -i \\ i \end{matrix}$	$\begin{matrix} x+iy, R_x+iR_y \\ x-iy, R_x-iR_y \end{matrix}$	(xz, yz)

$\mathcal{S}_6$	$\hat{\mathrm{E}}$	$\hat{\mathrm{C}}_3$	$\hat{\mathrm{C}}_3^2$	$\hat{\imath}$	$\hat{\mathrm{S}}_6^5$	$\hat{\mathrm{S}}_6$		$\varepsilon = \exp[2\pi i/3]$
$\mathrm{A_g}$	1	1	1	1	1	1	R_z	x^2+y^2, z^2
$\mathrm{E_g}$	$\begin{cases} 1 \\ 1 \end{cases}$	$\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$	$\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$	$\begin{matrix} 1 \\ 1 \end{matrix}$	$\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$	$\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$	$\begin{matrix} R_x+iR_y \\ R_x-iR_y \end{matrix}$	$(x^2-y^2, xy), (xz, yz)$
$\mathrm{A_u}$	1	1	1	-1	-1	-1	z	
$\mathrm{E_u}$	$\begin{cases} 1 \\ 1 \end{cases}$	$\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$	$\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$	$\begin{matrix} -1 \\ -1 \end{matrix}$	$\begin{matrix} -\varepsilon \\ -\varepsilon^* \end{matrix}$	$\begin{matrix} -\varepsilon^* \\ -\varepsilon \end{matrix}$	$\begin{matrix} x+iy \\ x-iy \end{matrix}$	

$\mathcal{S}_8$	$\hat{\mathrm{E}}$	$\hat{\mathrm{S}}_8$	$\hat{\mathrm{C}}_4$	$\hat{\mathrm{S}}_8^3$	$\hat{\mathrm{C}}_2$	$\hat{\mathrm{S}}_8^5$	$\hat{\mathrm{C}}_4^3$	$\hat{\mathrm{S}}_8^7$		$\varepsilon = \exp[2\pi i/8]$
A	1	1	1	1	1	1	1	1	R_z	x^2+y^2, z^2
B	1	-1	1	-1	1	-1	1	-1	z	
$\mathrm{E_1}$	$\begin{cases} 1 \\ 1 \end{cases}$	$\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$	$\begin{matrix} i \\ -i \end{matrix}$	$\begin{matrix} -\varepsilon^* \\ -\varepsilon \end{matrix}$	$\begin{matrix} -1 \\ -1 \end{matrix}$	$\begin{matrix} -\varepsilon \\ -\varepsilon^* \end{matrix}$	$\begin{matrix} -i \\ i \end{matrix}$	$\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$	$\begin{matrix} x+iy \\ x-iy \end{matrix}$	
$\mathrm{E_2}$	$\begin{cases} 1 \\ 1 \end{cases}$	$\begin{matrix} i \\ -i \end{matrix}$	$\begin{matrix} -1 \\ -1 \end{matrix}$	$\begin{matrix} -i \\ i \end{matrix}$	$\begin{matrix} 1 \\ 1 \end{matrix}$	$\begin{matrix} i \\ -i \end{matrix}$	$\begin{matrix} -1 \\ -1 \end{matrix}$	$\begin{matrix} -i \\ i \end{matrix}$		(x^2-y^2, xy)
$\mathrm{E_3}$	$\begin{cases} 1 \\ 1 \end{cases}$	$\begin{matrix} -\varepsilon \\ -\varepsilon^* \end{matrix}$	$\begin{matrix} i \\ -i \end{matrix}$	$\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$	$\begin{matrix} -1 \\ -1 \end{matrix}$	$\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$	$\begin{matrix} -i \\ i \end{matrix}$	$\begin{matrix} -\varepsilon^* \\ -\varepsilon \end{matrix}$	$\begin{matrix} R_x+iR_y \\ R_x-iR_y \end{matrix}$	(xz, yz)

Lineární grupy

$\mathcal{C}_{\infty v}$	$\hat{\mathrm{E}}$	$2\hat{\mathrm{C}}_\infty(\phi)$	$2\hat{\mathrm{C}}_\infty(2\phi)$	$\cdots$	$\infty\hat{\sigma}_v$		
$\mathrm{A_1}\ (\Sigma^+)$	1	1	1	$\cdots$	1	z	x^2+y^2, z^2
$\mathrm{A_2}\ (\Sigma^-)$	1	1	1	$\cdots$	-1	R_z	
$\mathrm{E_1}\ (\Pi)$	2	$2\cos\phi$	$2\cos 2\phi$	$\cdots$	0	$(x,y), (R_x, R_y)$	(xz, yz)
$\mathrm{E_2}\ (\Delta)$	2	$2\cos 2\phi$	$2\cos 4\phi$	$\cdots$	0		(x^2-y^2, xy)
$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$		
$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$		
$\mathrm{E_n}$	2	$2\cos n\phi$	$2\cos 2n\phi$	$\cdots$	0		

$\mathcal{D}_{\infty h}$	$\hat{\mathrm{E}}$	$2\hat{\mathrm{C}}_\infty(\phi)$	$\cdots$	$\infty\hat{\sigma}_v$	$\hat{\imath}$	$2\hat{\mathrm{S}}_\infty(\phi)$	$\cdots$	$\infty\hat{\mathrm{C}}_2'$		
$\mathrm{A_{1g}}\ (\Sigma_g^+)$	1	1	$\cdots$	1	1	1	$\cdots$	1		x^2+y^2, z^2
$\mathrm{A_{2g}}\ (\Sigma_g^-)$	1	1	$\cdots$	-1	1	1	$\cdots$	-1	R_z	
$\mathrm{E_{1g}}\ (\Pi_g)$	2	$2\cos\phi$	$\cdots$	0	2	$-2\cos\phi$	$\cdots$	0	(R_x, R_y)	(xz, yz)
$\mathrm{E_{2g}}\ (\Delta_g)$	2	$2\cos 2\phi$	$\cdots$	0	2	$2\cos 2\phi$	$\cdots$	0		(x^2-y^2, xy)
$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$		
$\mathrm{E_{ng}}$	2	$2\cos n\phi$	$\cdots$	0	2	$(-1)^n 2\cos n\phi$	$\cdots$	0		
$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$		
$\mathrm{A_{1u}}\ (\Sigma_u^+)$	1	1	$\cdots$	1	-1	-1	$\cdots$	-1		z
$\mathrm{A_{2u}}\ (\Sigma_u^-)$	1	1	$\cdots$	-1	-1	-1	$\cdots$	1		
$\mathrm{E_{1u}}\ (\Pi_u)$	2	$2\cos\phi$	$\cdots$	0	-2	$2\cos\phi$	$\cdots$	0	(x,y)	
$\mathrm{E_{2u}}\ (\Delta_u)$	2	$2\cos 2\phi$	$\cdots$	0	-2	$-2\cos 2\phi$	$\cdots$	0		
$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$	$\cdots$		
$\mathrm{E_{nu}}$	2	$2\cos n\phi$	$\cdots$	0	-2	$(-1)^{n+1} 2\cos n\phi$	$\cdots$	0		

Kubické grupy

$\mathcal{T}$	Ê	$4\hat{C}_3$	$4\hat{C}_3^2$	$3\hat{C}_2$	$\varepsilon = \exp[2\pi i/3]$	
A	1	1	1	1		$x^2 + y^2 + z^2$
E	$\begin{cases} 1 \\ 1 \end{cases}$	$\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$	$\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$	$\begin{matrix} 1 \\ 1 \end{matrix}\Big\}$		$(2z^2 - x^2 - y^2, x^2 - y^2)$
T	3	0	0	-1	$(x, y, z), (R_x, R_y, R_z)$	(xy, xz, yz)

$\mathcal{T}_h$	Ê	$4\hat{C}_3$	$4\hat{C}_3^2$	$3\hat{C}_2$	$\hat{i}$	$4\hat{S}_6^5$	$4\hat{S}_6$	$3\hat{\sigma}_h$	$\varepsilon = \exp[2\pi i/3]$	
A_g	1	1	1	1	1	1	1	1		$x^2 + y^2 + z^2$
E_g	$\begin{cases} 1 \\ 1 \end{cases}$	$\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$	$\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$	$\begin{matrix} 1 \\ 1 \end{matrix}$	$\begin{matrix} 1 \\ 1 \end{matrix}$	$\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$	$\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$	$\begin{matrix} 1 \\ 1 \end{matrix}\Big\}$		$(2z^2 - x^2 - y^2, x^2 - y^2)$
T_g	3	0	0	-1	3	0	0	-1	(R_x, R_y, R_z)	(xy, xz, yz)
A_u	1	1	1	1	-1	-1	-1	-1		
E_u	$\begin{cases} 1 \\ 1 \end{cases}$	$\begin{matrix} \varepsilon \\ \varepsilon^* \end{matrix}$	$\begin{matrix} \varepsilon^* \\ \varepsilon \end{matrix}$	$\begin{matrix} 1 \\ 1 \end{matrix}$	$\begin{matrix} -1 \\ -1 \end{matrix}$	$\begin{matrix} -\varepsilon \\ -\varepsilon^* \end{matrix}$	$\begin{matrix} -\varepsilon^* \\ -\varepsilon \end{matrix}$	$\begin{matrix} -1 \\ -1 \end{matrix}\Big\}$		
T_u	3	0	0	-1	-3	0	0	1	(x, y, z)	

$\mathcal{T}_d$	Ê	$8\hat{C}_3$	$6\hat{\sigma}_d$	$6\hat{S}_4$	$3\hat{C}_2$		
$\mathcal{O}$	Ê	$8\hat{C}_3$	$6\hat{C}_2'$	$6\hat{C}_4$	$3\hat{C}_2(=\hat{C}_4^2)$		
A_1	1	1	1	1	1		$x^2 + y^2 + z^2$
A_2	1	1	-1	-1	1		
E	2	-1	0	0	2		$(2z^2 - x^2 - y^2, x^2 - y^2)$
T_1	3	0	-1	1	-1	$(x, y, z), (R_x, R_y, R_z)$	
T_2	3	0	1	-1	-1	(x, y, z) v $\mathcal{T}_d$	(xy, xz, yz)

$\mathcal{O}_h$	Ê	$8\hat{C}_3$	$6\hat{C}_2$	$6\hat{C}_4$	$3\hat{C}_2(=\hat{C}_4^2)$	$\hat{i}$	$6\hat{S}_4$	$8\hat{S}_6$	$3\hat{\sigma}_h$	$6\hat{\sigma}_d$		
A_{1g}	1	1	1	1	1	1	1	1	1	1		$x^2 + y^2 + z^2$
A_{2g}	1	1	-1	-1	1	1	-1	1	1	-1		
E_g	2	-1	0	0	2	2	0	-1	2	0		$(2z^2 - x^2 - y^2, x^2 - y^2)$
T_{1g}	3	0	-1	1	-1	3	1	0	-1	-1	(R_x, R_y, R_z)	
T_{2g}	3	0	1	-1	-1	3	-1	0	-1	1		(xz, yz, xy)
A_{1u}	1	1	1	1	1	-1	-1	-1	-1	-1		
A_{2u}	1	1	-1	-1	1	-1	1	-1	-1	1		
E_u	2	-1	0	0	2	-2	0	1	-2	0		
T_{1u}	3	0	-1	1	-1	-3	-1	0	1	1	(x, y, z)	
T_{2u}	3	0	1	-1	-1	-3	1	0	1	-1		

$\mathcal{K}$	$\hat{E}$	$\hat{C}_2$	$\hat{C}_3$	$\hat{C}_3^2$	$\hat{C}_4$	$\hat{C}_4^3$	$\hat{C}_6$	$\hat{C}_6^5$	$\hat{S}_2$	$\hat{S}_3$	$\hat{S}_4$	$\hat{S}_6$	$\hat{\sigma}_h$	$\hat{\sigma}_v$	$\hat{i}$
Σ	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Π	3	-1	0	0	1	1	2	2	-3	-2	-1	0	1	1	-3
Δ	5	1	-1	-1	-1	-1	1	1	5	1	-1	-1	1	1	5
Φ	7	-1	1	1	-1	-1	-1	-1	-7	1	1	-1	1	1	-7