

1.1. PRINTED SYMBOLS FOR CRYSTALLOGRAPHIC ITEMS

1.1.5. Spaces

Printed symbol	Explanation	Printed symbol	Explanation
n	Dimension of a space	\mathbb{r} , or \mathbb{x}	Position vector (of a point or an atom), described by an $(n + 1) \times 1$ 'augmented' column
X	Point	(\mathbf{P}, \mathbf{p}) ; or (\mathbf{S}, \mathbf{s})	Transformation of the coordinate system, described by an $(n \times n)$ matrix \mathbf{P} or \mathbf{S} and an $(n \times 1)$ column \mathbf{p} or \mathbf{s}
\tilde{X}	Image of a point X after a symmetry operation (motion)	\mathbb{P} ; or \mathbb{S}	Transformation of the coordinate system, described by an $(n + 1) \times (n + 1)$ 'augmented' matrix
E^n	(Euclidean) point space of dimension n	(\mathbf{Q}, \mathbf{q})	Inverse transformation of (\mathbf{P}, \mathbf{p})
\mathbf{V}^n	Vector space of dimension n	\mathbb{Q}	Inverse transformation of \mathbb{P}
\mathbf{L}	Vector lattice		
L	Point lattice		

1.1.6. Motions and matrices

Printed symbol	Explanation
$\mathbf{W}; \mathbf{M}$	Symmetry operation; motion
(\mathbf{W}, \mathbf{w})	Symmetry operation \mathbf{W} , described by an $(n \times n)$ matrix \mathbf{W} and an $(n \times 1)$ column \mathbf{w}
\mathbb{W}	Symmetry operation \mathbf{W} , described by an $(n + 1) \times (n + 1)$ 'augmented' matrix
\mathbf{I}	$(n \times n)$ unit matrix
\mathbf{T}	Translation
(\mathbf{I}, \mathbf{t})	Translation \mathbf{T} , described by the $(n \times n)$ unit matrix \mathbf{I} and an $(n \times 1)$ column \mathbf{t}
\mathbb{T}	Translation \mathbf{T} , described by an $(n + 1) \times (n + 1)$ 'augmented' matrix
\mathbf{l}	Identity operation
(\mathbf{I}, \mathbf{o})	Identity operation \mathbf{l} , described by the $(n \times n)$ unit matrix \mathbf{I} and the $(n \times 1)$ column \mathbf{o}
\mathbb{l}	Identity operation \mathbf{l} , described by the $(n + 1) \times (n + 1)$ 'augmented' unit matrix

1.1.7. Groups

Printed symbol	Explanation
\mathcal{G}	Space group
\mathcal{T}	Group of all translations of \mathcal{G}
\mathcal{S}	Supergroup; also used for site-symmetry group
\mathcal{H}	Subgroup
\mathcal{E}	Group of all motions (Euclidean group)
\mathcal{A}	Group of all affine mappings (affine group)
$\mathcal{N}_{\mathcal{E}}(\mathcal{G})$; or $\mathcal{N}_{\mathcal{A}}(\mathcal{G})$	Euclidean or affine normalizer of a space group \mathcal{G}
\mathcal{P}	Point group
\mathcal{C}	<i>Eigensymmetry</i> (inherent symmetry) group
$[i]$	Index i of sub- or supergroup
\mathcal{G}	Element of a space group \mathcal{G}