List of symbols and abbreviations used in this volume

(1) *Points and point space*

P, Q, R	points
O	origin
$A_n, \mathbb{A}_n, P_n$	n-dimensional affine space
$E_n, \mathbb{E}_n$	n-dimensional Euclidean point space
x, y, z; or x_i	point coordinates
$\boldsymbol{x}$	column of point coordinates
$\tilde{X}$	image point
$\tilde{\boldsymbol{x}}$	column of coordinates of an image point
$\tilde{x}_i$	coordinates of an image point
$\boldsymbol{x}'$	column of coordinates in a new coordinate system (after basis transformation)
x_i'	coordinates in a new coordinate system

(2) *Vectors and vector space*

$\mathbf{a}, \mathbf{b}, \mathbf{c}$; or $\mathbf{a}_i$	basis vectors of the space
$\mathbf{r}, \mathbf{x}$	vectors, position vectors
$\mathbf{o}$	zero vector (all coefficients zero)
a, b, c	lengths of basis vectors ⎫ lattice
α, β, γ; or α_j	angles between basis vectors ⎬ parameters
$\boldsymbol{r}$	column of vector coefficients
r_i	vector coefficients
$(\mathbf{a})^{\mathrm{T}}$	row of basis vectors
$\mathbf{V}_n$	n-dimensional vector space

(3) *Mappings and their matrices and columns*

$\boldsymbol{A}, \boldsymbol{W}$	(3×3) matrices
$\boldsymbol{A}^{\mathrm{T}}$	matrix $\boldsymbol{A}$ transposed
$\boldsymbol{I}$	(3×3) unit matrix
A_{ik}, W_{ik}	matrix coefficients
$(\boldsymbol{A}, \boldsymbol{a}), (\boldsymbol{W}, \boldsymbol{w})$	matrix–column pairs
$\mathbb{W}$	augmented matrix
$\mathbb{x}, \tilde{\mathbb{x}}, \mathbb{t}$	augmented columns
$\boldsymbol{P}, \mathbb{P}$	transformation matrices
A, I, W	mappings
$\boldsymbol{w}$	column of the translation part of a mapping
w_i	coefficients of the translation part of a mapping
$\boldsymbol{G}, G_{ik}$	fundamental matrix and its coefficients
$\det(\dots)$	determinant of a matrix
$\mathrm{tr}(\dots)$	trace of a matrix

(4) *Groups*

$\mathcal{G}$	group; space group
$\mathcal{R}$	space group (Chapter 1.5)
$\mathcal{H}, \mathcal{U}$	subgroups of $\mathcal{G}$
$\mathcal{M}$	maximal subgroup of $\mathcal{G}$ (Chapter 1.5)
$\mathcal{M}$	Hermann's group (Chapter 1.2)
$\mathcal{P}, \mathcal{S}, \mathcal{V}, \mathcal{Z}$	groups
$\mathcal{T}(\mathcal{G}), \mathcal{T}(\mathcal{R})$	group of all translations of $\mathcal{G}, \mathcal{R}$
$\mathcal{A}$	group of all affine mappings = affine group
$\mathcal{E}$	group of all isometries (motions) = Euclidean group
$\mathcal{F}$	factor group
$\mathcal{I}$	trivial group, consisting of the unit element e only
$\mathcal{N}$	normal subgroup
$\mathcal{O}$	group of all orthogonal mappings = orthogonal group
$\mathcal{N}_{\mathcal{G}}(\mathcal{H})$	normalizer of $\mathcal{H}$ in $\mathcal{G}$
$\mathcal{N}_{\mathcal{E}}(\mathcal{H})$	Euclidean normalizer of $\mathcal{H}$
$\mathcal{N}_{\mathcal{A}}(\mathcal{H})$	affine normalizer of $\mathcal{H}$
$\mathcal{P}_{\mathcal{G}}, \mathcal{P}_{\mathcal{H}}$	point groups of the space groups $\mathcal{G}, \mathcal{H}$
$\mathcal{S}_{\mathcal{G}}(X), \mathcal{S}_{\mathcal{H}}(X)$	site-symmetry groups of point X in the space groups $\mathcal{G}, \mathcal{H}$
a, b, g, h, m, t	group elements
e	unit element
i or $[i]$	index of $\mathcal{H}$ in $\mathcal{G}$

(5) *Symbols used in the tables*

p	prime number
n, n'	arbitrary positive integer numbers
q, r, u, v, w	arbitrary integer numbers in the given range
$\mathbf{a}, \mathbf{b}, \mathbf{c}$	basis vectors of the space group
$\mathbf{a}', \mathbf{b}', \mathbf{c}'$	basis vectors of the subgroup or supergroup
x, y, z	site coordinates in the space group
$t(1,0,0), t(0,1,0),\dots$	generating translations

(6) *Abbreviations*

HM symbol	Hermann–Mauguin symbol
IT A	*International Tables for Crystallography* Volume A
PCA	parent-clamping approximation
k-subgroup	*klassengleiche* subgroup
t-subgroup	*translationengleiche* subgroup