The following lists have been compiled as a reference tool. The *Chapter number* and (colon) *Equation number* (or *'Fig' number)* are listed on the right. Underlined are the locations of definitions. Not listed are symbols used only in a local context.

Index of Latin Symbols

$\mathbb{A},\mathbb{A}_{ijkl}$	accommodation tensor, components	*7:91b;8:82;11:10*
$\mathbf{a}$	unit cell base vector (length *a*)	*2:1a,b*
$\mathbf{a}_1,\mathbf{a}_2,\mathbf{a}_3$	base vectors in hexagonal plane	*2:Fig2*
$a_Z(\mathbf{h})$	axis distribution function	*2:18*
$\mathbb{B}^c$	localization tensor	*7:92b;11:13b*
B	bulk modulus	*7:45*
$B^R;B^V$	Reuss; Voigt averages of bulk modulus	*7:47;7:52*
$\mathbf{b}^{(\lambda)}$	basis for symmetric second-rank tensors	*7:11-13;8:27*
	eigentensors for fourth-rank tensors (cubic/hexagonal)	*7:19/21*
$\mathbf{b}$	unit cell base vector (length *b*)	*2:1a,b*
	Burgers vector (length *b*)	*8:1*
$\hat{\mathbf{b}}$	slip direction (unit vector)	*8:8*
$\mathbb{C};\mathbb{C}_{ijkl};\mathbb{C}_{\lambda\mu}$	elastic stiffness; tensor components; matrix components	*1:3,17,18;7:9;A1*
$\mathbb{C}'$	a particular shear stiffness	*1:20*
$\bar{\mathbb{C}};\tilde{\mathbb{C}}$:	average and deviation of $\mathbb{C}$	*A22*
$\mathbb{C}^H;\mathbb{C}^R;\mathbb{C}^V$:	Hill; Reuss; Voigt averages of $\mathbb{C}$	*7:35–38*
$C^{(\lambda)}$	eigenvalues of $\mathbb{C}$	*7:15*
$\mathbf{c}$	unit cell base vector (length *c*)	*2:1a,b*
$C_l^{\mu\nu}$	OD coefficients (Bunge)	*3:6B*
c (superscript): crystal		

D	diffusivity tensor (*D* when scalar)	*1:15,22,23*
	plastic strain rate tensor (deviatoric)	*1:13';7:69,73;8:11,29;11:1;12:1;13:10*
$\hat{\mathbf{D}}$	straining direction	*8:15,21*
$\tilde{\mathbf{D}}$	local deviation in strain rate	*11:10*
d	grain size	*8:80*
	plane spacings (twinning d_t; lattice d_{hkl})	*1:12e;2:Fig.12;4:1*
$\mathbb{E}$	Eshelby tensor	*7:57,91;11:10c;A18*
E	Young's modulus	*1:24;7:63*
$\mathcal{E}$	evolution function	*8:35*
F	deformation gradient (matrix)	*8:85-87,97;14:5,8*
F_i	diffraction form factor	*3:17*
F_l^ν	coefficients of pole distribution (Bunge)	*3:4B*
f	body force, per unit volume	*11:28;A2*
	resulting force on element interface	*12:7-8*
f(**g**)	orientation distribution function (OD)	*3:5,5B*
$\tilde{f}$, $\tilde{\tilde{f}}$:	even and odd part of f(**g**)	*3:10*
$\mathcal{F}$	function symbol	*8:31,32*
$\mathbb{G}$	symmetric derivative of the Green tensor **G**	*11:31;A25b*
G	the elastic Green tensor	*A3,4*
ΔG	activation energy (free enthalpy)	*1:23*
g	crystal orientation (in sample frame): set of angles or rotation matrix	*2:6*
$\mathbf{g}^E$	orientation of stretch ellipsoid (grain shape)	*8:89,Fig.30*
d**g**	element in orientation space (Δ**g** when finite)	*2:14(15)*
Δ**g**	misorientation	*2:8,9a*
g (superscript): grain (referring to morphology not orientation)		*8:91,93*
	also: index of cell in orientation space	*(p.479)*

H	symmetry operator (matrix)	*1:6;8:31′*
h, *hkl*	Miller indices	*2:1b,18;3:17*
h^{st}	hardening matrix	*8:39*
h(*t*)	Heaviside step function	*7:74,82*
h	trace operator	*12:7;13:17*
$\mathcal{H}$	hardening function	*8:74*
$\mathbb{I}$	unit tensor of fourth (or arbitrary) rank	*7:57,62a*
I	unit matrix	*8:79*
$\bar{\mathbf{I}}$	inversion operator	*1:8*
I	intensity	*4:2*
I^{bg}	background intensity	*4:5*
I^{norm}	normalized intensity	*4:11*
J_i	tensor invariants	*1:14*
$\mathbb{K},\mathbb{K}^c$	linear creep compliance tensor (polycrystal; single crystal)	*7:69,98*
$\mathbf{K}_1$	habit plane in twinning	*2:12a,2:Fig.20*
$K^{(\lambda)}$	eigenvalues of $\mathbb{K}^c$	*7:104*
k	wave vector	*7:65*
k	Miller index	*2:1b*
	Boltzmann constant	*8:51*
k_y	Hall–Petch constant	*8:80*
K_l^m	coefficients of inverse pole figure (Bunge)	*2:Fig.38*
k_l^n	symmetrized harmonic functions (Bunge)	*3:3B*
$\mathcal{K}$	kinetic function	*8:51′,58,62*
L	velocity gradient (plastic)	*1:12;8:13*
l	Miller index	*2:1b*

l	order of harmonic function	*3:5,5B*
$\mathbb{M};\mathbb{M}^c$	visco-elastic compliance (polycrystal; single crystal)	*7:72,70*
$\hat{\mathbb{M}}$	Carson transform of $\mathbb{M}$	*7:89*
$\mathbf{M}$	Mirror plane operator	*1:9*
$\mathbf{M}^c$	Taylor tensor: stress deviator scaled by yield surface size	*8:23*
$\mathbf{M}_\varepsilon$	Taylor tensor defined by strains, not stresses	*8:42,49*
M^c	Taylor factor (normalized plastic work, regardless of model used)	*2:24*
	– especially for crystal c. (*M* is often used for the *average*.)	*10:Fig.30a*
M_i	multiplicity of pole i	*3:12*
$\mathbf{m}$	Schmid tensor (sym. part of unit distortion for slip, *m* when scalar)	*8:9;5:2,6*
m	physical relative rate sensitivity of flow stress	*8:52*
$\hat{N}^l$, $\tilde{N}^m$, N^n	interpolation functions in FEM	*12:5;13:13*
N	upper limit for running index *n*	*7:102;12:5;13:13,14*
	number of counts	*4:10*
$\mathbf{n}$	normal to a surface or to a to slip plane (unit vector $\hat{\mathbf{n}}$)	*8:8*
	axis of rotation in axis/angle description of misorientations	*2:9a*
n	order of diffraction	*4:1*
	stress exponent in rate sensitive numerical kinetic relation	*8:55*
$\mathbb{P}$	plasticity tensor: visco-plastic compliance	*8:75,76;11:2–8;12:1;13:12*
$\mathbb{P}^{eff}$	effective plastic compliance	*8:82*
$\mathbf{P}$	pole	*2:Fig.3*
$\mathbf{p}$	the direction of a line	*8:86*
	a misorientation in quaternion description	*2:11d,e*
p	pressure	*1:21;8:79;11:28;13:13*
P_l^m	Legendre polynomial	*3:3*
$p_h(\mathbf{y})$, $p(\alpha,\beta)$	pole distribution function	*2:17;3:1,2,3,3B,17*

$\mathbb{Q}$	visco-plastic stiffness tensor	*11:24;13:11*
$\mathbf{Q}$	quaternion (four components)	*2:11*
Q	activation energy	*1:22;8:59*
$\mathbf{q}$	heat flow (vector)	*1:1*
	vector part of quaternion	*2:11b*
	normal to a plane	*8:86′*
	skew part of unit distortion tensor for slip	*5:3,7;8:9′*
q ($\bar{q}$,Δq)	contraction ratio (average and span)	*10:6-8*
q_0	scalar part of quaternion	*2:11b*
Q_{lm}	coefficients in pole figure series	*3:3,6*
$\mathbb{R}$	elastic reaction tensor	*7:56,A20*
$\mathbf{R}$	rotation operator	*1:4,11′*
$\mathbf{R}$	Rodrigues vector	*2:10a*
$\mathbf{R}^*$	crystal orientation, identical to **g** (represented as matrix)	*13:20*
R	Lankford coefficient of strain anisotropy in sheet	*10:4*
r	same on differential basis	*10:5*
$\mathbf{r}$	direction	*2:1a*
$r(\alpha,\beta)$	inverse pole figure density	*3:9*
R_{ln}	harmonic coefficients of inverse pole figure	*3:8*
$\mathbb{S}$,$\mathbb{S}_{ijkl}$,$\mathbb{S}_{\lambda\mu}$	elastic compliance tensor (components, matrix)	*1:18′;7:10,63*
$\mathbf{S}$,$\mathbf{S}^c$	stress deviator (c: in crystal)	*8:29,79;11:24;12:1;13:10*
$\mathbf{S}$	plane of shear in twinning	*2:12a*
$S^{(\lambda)}$	eigenvalues of $\mathbb{S}$	*7:26,29*
s	Carson transform of time	*7:78*

s (superscript): slip (or twinning) system

T	absolute temperature	*1:1*
t	twinning transformation matrix	*2:12b*
	surface tractions (a vector)	*12:3*
t	time	*7:64*
	thickness	*4:2*
$T_l^{\mu\nu}$	generalized spherical harmonics (Bunge)	*3:5B;7:6*
^{T} (superscript): transpose		*1:5*
tr	sometimes used for Trace	*12:4*
u	displacement vector (u: scalar displacement)	*7:64;A4*
	velocity vector in FEM	*13:12*
$\mathbf{u}_1$	displacement in twinning	*2:12a*
$u_{k,l}$	displacement gradient tensor	*A1,5*
uvw	direction indices	*2:1a*
V	left stretch tensor	*8:87*
v	elastic wave velocity	*7:68*
$\mathbb{W}$	rotational Eshelby tensor	*11:11;A19*
W	spin tensor (skew part of velocity gradient)	*1:13";8:84,94*
$\mathbf{W}^g$	same at grain level	
$\tilde{\mathbf{W}}$	local deviation in rotation rate	*11:11*
$\mathbf{W}^c$, $\mathbf{W}^p$	'plastic spin' of crystal (due to slip)	*8:12,92;(13:21)*
$\mathbf{W}^E$ ($\mathbf{W}^e$)	Euler spin (of grain)	*8:89-91;13:6*
W*	reorientation rate of crystal axes	*8:93-96*
w	work per unit volume (only used differentially or as rate)	*8:17,68*
w^c	statistical weight of a crystal	*7:2,3;13:4,11*
W_{lmn}	generalized harmonic coefficients (Roe)	*3:5;7:6*

Index of Greek Symbols

$\dot{\gamma}_0$	reference strain rate	*11:1*
γ_t	twinning shear	*2:12e;8:2*
δ	virtual variation	*8:1,2*
	azimuth angle in oblique section (Matthies)	*2:5*
	angle in Debye ring	*4:13*
δ_{ij}	Kronecker symbol (unit tensor)	
Δ	difference operator	*2:15*
$\boldsymbol{\varepsilon}$	elastic strain tensor (*plastic* only as d$\boldsymbol{\varepsilon}$)	*7:9;(8:15′)*
$\tilde{\boldsymbol{\varepsilon}}$	local deviation in $\boldsymbol{\varepsilon}$	*7:56*
$\hat{\boldsymbol{\varepsilon}}(s)$	Carson transform of $\boldsymbol{\varepsilon}(t)$	*7:88*
$\boldsymbol{\varepsilon}^t$	transformation strain tensor	*A7*
$\boldsymbol{\varepsilon}^*$	fictitious transformation strain	*A27*
$\dot{\varepsilon}$	plastic strain rate (scalar)	*8:15,51,67′*
$\boldsymbol{\eta}_1$	twinning direction	*2:12a,2:Fig.20*
η	azimuth of axis in crystal coordinates	*3:6*
θ	(one-half of the) Bragg angle	*4:1*
θ	crystal hardening rate (sub-zero: initial, sub-one: for single slip)	*8:38,40*
	angle of twist	*10:2*
Θ	Euler angle (distance between z and Z poles)	*2:2,6,2:Fig.3,4*
	polycrystal hardening rate	*8:74*
κ, κ_{ij}	thermal conductivity (tensor, components)	*1:1*
κ	elastic compressibility	*1:21;7:49*
	parameter in work-hardening relation	*8:37′;13:22*

λ_i	eigenvalues	*1:14;8:88*
λ	wavelength of radiation	*4:1*
	diffusive jump distance	*1:23*
μ	shear modulus (relevant combination for dislocation problems)	*8:58,62*
	x-ray absorption coefficient	*4:2*
	Euler angle in oblique section	*2:4*
ν	Euler angle in oblique section	*2:3*
ν	Poisson's ratio	*10:9*
Ξ	radial distance of axis from **Z** in sample coordinate system	*3:8*
ξ	radial distance of pole from **z** in crystal coordinate system	*3:6*
ρ	material density	*4:3;7:64*
	dislocation density	*8:35*
	fractional radial distance	*2:2;13:7*
	angular density of rod axes	*14:1-3*
$\boldsymbol{\sigma}$, σ_{ij},σ_μ	Cauchy stress	*1:9;7:98,106;A1*
$\bar{\boldsymbol{\sigma}}$,$\tilde{\boldsymbol{\sigma}}$	average and local deviation of $\boldsymbol{\sigma}$	*7:56;A7*
$\hat{\boldsymbol{\sigma}}(s)$	Carson transform of $\boldsymbol{\sigma}(t)$	*7:88*
σ_f	flow stress (a scalar measure of the size of the yield surface)	*8:65,70*
σ_{vM}	equivalent stress according to von Mises	*8:68;10:10*
σ	Euler angle in oblique sections, according to Matthies	*2:5*
	standard deviation	*4:10*
Σ	sum	
τ	shear stress	*10:1*

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τ	relaxation time	*7:100*
τ^c	scalar parameter of strength (measure of crystal yield surface size)	*8:26*
τ^s	critical resolved shear stress on system s (with hat: at 0 K)	*8:18,51;11:1*
τ_ε	part of flow stress due to strain hardening	*8:34*
τ_v	scaling stress in strain-hardening law ('Voce stress')	*8:35*
Υ	weighting function in FEM (a scalar)	*12:4*
Φ	weighting function in FEM (a 1-D array)	*12:3;13:8,9*
ϕ	tilting angle in goniometer	*4:Fig.1*
	Euler angle (azimuth in inverse pole figure)	*2:Fig.4*
φ_1	Euler angle (azimuth in pole figure)	*2:Table I*
φ_2	Euler angle (azimuth in inverse pole figure)	*2:Table I*
φ^+, φ^-	Euler angles in oblique section (Bunge)	*2:5,2:Fig.15*
Φ	Euler angle (Bunge: distance between z and Z poles)	*2:Table I*
	(Roe: azimuth in inverse pole figure)	*2:Table I*
	plastic potential	*8:21*
χ	goniometer azimuth	*4:Fig.1*
$\boldsymbol{\Psi}$	weighting function in FEM (a 2-D array)	*12:2*
Ψ	Euler angle (azimuth in pole figure)	*2:Fig.3*
$\boldsymbol{\omega}$	skew part of distortion tensor (used only differentially)	*8:5*
$\tilde{\boldsymbol{\omega}}$	deviation in elastic rotation tensor	*A19*
ω	angle of rotation in axis/angle description	*2:9b*
	angle of rotation in goniometer (for rocking curves)	*4:12a*
	wave frequency	*7:65*
Ω	volume in orientation space (or other space)	*2:13,19;12:3;13:14*

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