1.5.11. Glossary

α_{ij}	(linear) magnetoelectric tensor
β_{ijk}	nonlinear magnetoelectric tensor *EHH*
γ_{ijk}	nonlinear magnetoelectric tensor *HEE*
Δ	Weiss constant
Δn	magnetic birefringence
ε_{ij}	permittivity
λ	constant describing magnetostriction
Λ_{ijk}	tensor describing the piezomagnetic effect
$\Lambda_{i\alpha}$	matrix describing the piezomagnetic effect
μ_{ij}	permeability
$\boldsymbol{\mu}$	magnetic moment
μ_B	Bohr magneton
$\pi_{ijk\ell}$	piezomagnetoelectric tensor
$\rho(\mathbf{r})$	charge density
Φ	thermodynamic potential
χ^e_{ij}	dielectric susceptibility
χ_{ij}, χ^m_{ij}	magnetic susceptibility
$\mathbf{B}$	magnetic induction
c	speed of light
$c_{ijk\ell}$	elastic stiffness
$\mathrm{d}\tau$	volume element
e	charge of the electron
$\mathbf{E}$	electric field
g	Landé g-factor
$\mathbf{H}$	magnetic field
$\mathbf{j}(\mathbf{r})$	current density
$\mathbf{J}$	total angular momentum
J^{ex}	exchange constant
$\mathbf{k}$	position vector in reciprocal space
k_B	Boltzmann factor
$\mathbf{l}_i$	sum of the magnetic moments in a unit cell, in which some of the moments are taken with opposite sign
$\mathbf{L}_i$	antiferromagnetic vector
$\mathbf{L}$	orbital angular momentum (Section 1.5.1.1), antiferromagnetic vector (remainder of this chapter)
$\mathbf{m}(\mathbf{r})$	magnetic moment density
$\mathbf{m}$	sum of the magnetic moments in a unit cell
$\mathbf{M}$	magnetization (= magnetic moment per unit volume = ferromagnetic vector)
N	No. of atoms per unit volume
p	effective number of Bohr magnetons (Section 1.5.1), pressure (remainder of this chapter)
$\mathbf{P}$	electric polarization
$\mathbf{r}$	position vector in space
$\mathbf{S}(\mathbf{r})$	spin density
$\mathbf{S}$	spin angular momentum (of an atom or ion)
$s_{ijk\ell}$	elastic compliance
S_{ij}	strain tensor
T_{ij}	stress tensor
T	temperature
T_c	phase transition temperature
T_C	Curie temperature
T_N	Néel temperature
U	energy
U_a	anisotropy energy
U_{el}	elastic energy
U_{me}	magnetoelastic energy
v	velocity
Z	atomic number (= number of electrons per atom)

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