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LIST OF ABBREVIATIONS

BLT	Bismuth Lanthanum Titanate
KNNL	Potassium Sodium Lithium Niobate
PZT	Lead Zirconate Titanate
PZN	Lead Zinc Niobate
SLRI	Synchrotron Light Research Institute
PRT	Pressure Reduction Tube
XBPM	X-ray Beam Position Monitor
DCM	Double Crystal Monochromator
XAS	X-ray Absorption Spectroscopy
XANES	X-ray Absorption Near Edge Structure
EXAFS	Extended X-ray Absorption Fine Structure
MXAN	Minuit X-ray Absorption Near Edge Structure
DFT	Density Functional Theory
LDA	Local Density Approximation

LIST OF SYMBOLS

σ_{tot}	Total Photon Cross Section
$\sigma_{p.e.}$	Photoelectron Cross Section
σ_{coh}	Coherent (Rayleigh) Scattering Cross Section
σ_{incoh}	Incoherent (Compton) Scattering Cross Section
σ_{nuc}	Photonuclear Cross Section
K_e	Electron Field Production Cross Section
K_N	Nuclear Field Production Cross Section
I_0	Incident X-ray Intensity
I	Transmit X-ray Intensity
I_f	Fluorescence X-ray Intensity
E	Photon Energy
k	Photoelectron Wavenumber
$\mu_0(E)$	Embedded Atom Absorption Coefficient
$\mu(E)$	Absorption Coefficient
$\Delta\mu_0(E)$	Absorption Edge Step
$\chi(E)$	Absorption Fine Structure in *k*-space
$\chi(r)$	Absorption Fine Structure in *r*-space
S_0^2	Average Amplitude Reduction Factor
E_0	Average Energy Shift
$\lambda(k)$	Photoelectrons Mean Free Paths
$F_j(k)$	Backscattering Amplitude in the j^{th} Scattering Path
$\delta_j(k)$	Phase Shift in the j^{th} Scattering Path
$\delta_a(k)$	Phase Shift of Absorbing Atom in the j^{th} Scattering Path
$\delta_b(k)$	Phase Shift of Backscattering Atom in the j^{th} Scattering Path
N_j	Number of Equivalent Routes in the j^{th} Scattering Path
R_j	Effective Path Length in the j^{th} Scattering Path
ΔR_j	Change of Effective Path Length in the j^{th} Scattering Path

σ_j^2	Mean Square Disorder in the j^{th} Scattering Path
N	Number of Parameters
N_{idp}	Number of Independent Points
$Mn_{Bi/La}$	Mn Substituting on Bi/La Site
$Mn_{K/Na/Li}$	Mn Substituting on K/Na/Li Site
Mn_{Ti}	Mn Substituting on Ti Site
Mn_{Nb}	Mn Substituting on Nb Site
Mn_i	Mn Substituting on Interstitial
Zn_{Pb}	Zn Substituting on Pb Site
Zn_{Nb}	Zn Substituting on Nb Site
Zn_i	Zn Substituting on Interstitial
E_{Per}	Formation Energy of Perovskite Phase
E_{Py}	Formation Energy of Pyrochlore Phase