

LIST OF SYMBOLS

e	the charge on the electron
I	the nuclear spin quantum number
γ	the gyromagnetic ratio of a quadrupole nucleus
\mathcal{H}	the Hamiltonian
$q = \text{EFG}$	the electric field gradient
Q	the nuclear quadrupole moment
$e^2Qq/\hbar = \text{QCC}$	the quadrupole coupling constant
\hbar	the Plank's constant
$\eta = (q_{xx} - q_{yy})/q_{zz}$	the asymmetry parameter of electric field gradient
ν	the frequency of nuclear quadrupole resonance transition
H_0	the strength of a perturbing static magnetic field