Equation Summary

Equation Number	Equation	Solving For	Page Number
2.5a	$E = \int F\,dr$	Potential energy between two atoms	31
2.5b	$F = \dfrac{dE}{dr}$	Force between two atoms	31
2.9	$E_A = -\dfrac{A}{r}$	Attractive energy between two atoms	32
2.11	$E_R = \dfrac{B}{r^n}$	Repulsive energy between two atoms	33
2.13	$F_A = \dfrac{1}{4\pi\epsilon_0 r^2}(\lvert Z_1 \rvert e)(\lvert Z_2 \rvert e)$	Force of attraction between two isolated ions	35
2.16	$\%\text{IC} = \left\{1 - \exp\left[-(0.25)(X_\text{A} - X_\text{B})^2\right]\right\} \times 100$	Percent ionic character	43

List of Symbols

Symbol	Meaning
A, B, n	Material constants
E	Potential energy between two atoms/ions
E_A	Attractive energy between two atoms/ions
E_R	Repulsive energy between two atoms/ions
e	Electronic charge
ϵ_0	Permittivity of a vacuum
F	Force between two atoms/ions
r	Separation distance between two atoms/ions
X_A	Electronegativity value of the more electronegative element for compound BA
X_B	Electronegativity value of the more electropositive element for compound BA
Z_1, Z_2	Valence values for ions 1 and 2