

## List of Abbreviations and Symbols

<b>XRD</b>	X-ray diffraction
<b>TEM</b>	Transmission Electron Microscopy
<b>SEM</b>	Scanning Electron Microscopy
<b>EDAX</b>	Energy Dispersive X-Ray Spectroscopy
<b>SAED</b>	Selected area electron diffraction
<b>PL</b>	Photoluminescence
<b>DTA</b>	Differential Thermal Analysis
<b>DSC</b>	Differential Scanning Calorimetry
<b>TGA</b>	Thermal Gravimetric Analysis
$\sigma$	Inter-phase surface tension
$v$	Atomic volume of the solute
$C_{\infty}$	Concentration of the saturated solution
$C_R$	Equilibrium concentration at the boundary of a grain
<b>D</b>	Diffusion coefficient
$\Delta$	Supersaturation
$\dot{R}$	Cluster growth velocity
<b>CdS</b>	Cadmium sulphide
<b>Sb<sub>2</sub>S<sub>3</sub></b>	Antimony trisulphide

<b>CdSe</b>	Cadmium selenide
<b>SiO<sub>2</sub></b>	Silicon dioxide
<b>B<sub>2</sub>O<sub>3</sub></b>	Boron trioxide
<b>Na<sub>2</sub>O</b>	Sodium oxide
<b>CaO</b>	Calcium oxide
<b>K<sub>2</sub>O</b>	Potassium oxide
<b>ZnO</b>	Zinc oxide
<b>TiO<sub>2</sub></b>	Titanium dioxide
<b>hrs</b>	Hours
<b>°C</b>	Degree Celsius
<b>ICDD</b>	International Centre for Diffraction Data
<b>n</b>	Integer
<b><math>\lambda</math></b>	Wavelength
<b>FWHM</b>	Full width at half maxima
<b>eV</b>	Electron volt
<b>Å</b>	Angstrom
<b>nm</b>	Nanometer
<b>V</b>	Volt
<b>T</b>	Tesla

<b>UV-VIS</b>	Ultra Violet-Visible
$I_o$	Incident intensity
$\alpha$	Absorption coefficient of the medium
$E_g$	Energy Gap
<b>Xe</b>	Xenon
<b>IR</b>	Infrared
$E$	Electric field
$\nu$	Frequency
<b>cm</b>	Centimeter
<b>CRT</b>	Cathode ray tube
<b>mg</b>	Milligram
<b>Cd</b>	Cadmium
<b>S</b>	Sulphur
$\eta$	Glass viscosity
<b>N</b>	Number of viscosity affecting components
<b>UV</b>	Ultraviolet
<b>Sb</b>	Antimony
<b>Ar</b>	Argon
<b>gm</b>	Gram

<b><math>m_e</math></b>	Effective mass electron
<b><math>m_h</math></b>	Effective mass of hole
<b><math>T_m</math></b>	Melting Point
<b><math>\mu_n</math></b>	Electron Mobility
<b><math>\mu_h</math></b>	Hole Mobility
<b><math>\epsilon</math></b>	Dielectric Constant
<b>K</b>	Kelvin
<b><math>T_g</math></b>	Glass transition temperature
<b><math>T_{melt}</math></b>	Glass melting temperature
<b><math>\mu</math></b>	Reduced effective mass
<b>Pa.s</b>	Pascal second (unit of viscosity)
<b>QD</b>	Quantum Dot
<b>DNA</b>	Deoxyribonucleic acid
<b>SDGs</b>	Semiconductor doped glasses
<b>X</b>	Exciton
<b>h</b>	Hole
<b>DOS</b>	Density of states
<b><math>a_B</math></b>	Exciton Bohr radius
<b>EMA</b>	Effective –mass approximation

$\epsilon_0$	Permittivity of vacuum
$E_{\text{Ry}}^*$	Rydberg energy
<b>QLEDs</b>	QDs-based light emitting diodes
<b>LED</b>	Light emitting diode
<b>SWNT</b>	Single-walled carbon nanotube
<b>MWNT</b>	Multi-walled carbon nanotube
<b>MEG</b>	Multiple exciton generation