

LIST OF ABBREVIATIONS

Abbreviation	Details
0-D	Zero Dimensional
1-D	One Dimensional
2-D	Two Dimensional
3-D	Three Dimensional
C-V	Capacitance – Voltage
CQDs	Colloidal Quantum Dots
CVD	Chemical Vapor Deposition
DI	Deionized
DOS	Density of States
ETL	Electron transport Layer
FWHM	Full Width at Half Maximum
I-V	Current – Voltage
J-V	Current density - Voltage
LED	Light Emitting Diode
MBE	Molecular Beam Epitaxy
MSM	Metal Semiconductor Metal
NPs	Nanoparticles
NWs	Nanowires
PDs	Photodetector
PVDF	Polyvinylidene Fluoride
QDs	Quantum Dots
SAED	Selected Area Electron Diffraction
TEM	Transmission Electron Microscopy

TMOs	Transition Metal Oxide
UV	Ultraviolet
PLD	Plasma assisted Technique
MOPVE	Metalorganic Vapour Phase Expitaxy

LIST OF SYMBOLS

Symbol	Details
E_g	Band gap
a_o, a_b	Bohr radius of hydrogen atom, material of interest
K_{et}	Rate of electron transfer
E_v	Valance band
E_c	Conduction band
h	Plank's constant
t_r	Rise time
t_d	Decay time
λ	Wavelength
$I_{ph}(\lambda, V)$	Photocurrent
$I_{dark}(\lambda, V)$	Dark current or noise current
$J_{ph}(\lambda, V)$	Photocurrent density
$P_{opt}(\lambda)$	Optical power density
\mathcal{E}	Effective dielectric constant
q	Electron charge
ϕ	Built-in potential
ψ	Wave function
b	Natural separation length of electron-hole pair
W	Width of depletion region
\mathcal{E}	Effective dielectric constant
$\phi_{B,eff}$	Effective barrier height
n	Ideality factor
A^*	Richardson constant
E	Electric field
c	Speed of light
m	Refractive index
ψ_n	Riccati Bessel function
ζ_n	Riccati Bessel function
R_e	Responsivity
D^*	Detectivity
A	Area