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Date:

(Deep Chandra Upadhyay)

***Dedicated  
To  
Mata Vaishnav Devi***

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## LIST OF ABBREVIATIONS

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Abbreviation	Details
FTO	Fluorine-doped tin oxide
PEDOT: PSS	Poly (3, 4-ethylene dioxythiophene): polystyrene sulfonate
PCDTBT	Poly[N-9"-heptadecanyl-2,7-carbazole-alt-5,5-(4',7'-di-2-thienyl-2',1',3' benzothiadiazole)
PCBM	[6, 6]-phenyl C <sub>61</sub> butyric acid methyl ester
DI	Deionized
ZnO	Zinc oxide
P3HT	(Poly(3-hexylthiophene-2,5-diyl
MoO <sub>3</sub>	Molybdenum trioxide
PTB7	type poly[[4,8-bis [(2 ethylhexyl) oxy] benzo [1,2-b: 4,5-b']dithiophene-2,6-diyl][3-fluoro-2-[(2ethylhexyl)carbonyl] thieno [3,4-b] thiophenediyl]]
ETL	Electron transport layer
HTL	Hole transport layer
QDs	Quantum Dots
HR-SEM	High Resolution-Scanning electron microscopy
UV-Vis	Ultraviolet-visible spectroscopy
NCs	Nanocrystals
VB	Valence band
CB	Conduction band
SPA	Semiconductor parameter analyser
I-V	Current-Voltage
C-V	Capacitance -Voltage
NIR	Near infrared
EQE	External Quantum Efficiency

HOMO	Highest Occupied Molecular Orbital
LUMO	Lowest Unoccupied Molecular Orbital
eV	Electron Volt
CdSe	Cadmium Selenide
Ag	Silver
Al	Aluminum
MEA	Monoethanolamine

## LIST OF SYMBOLS

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Symbol	Details
$\lambda$	Wavelength
T	Transmittance
A	Absorbance
$\tau_r$	Rise time
$\tau_F$	Fall time
$R_\lambda$	Responsivity
$J_{ph}$	Photocurrent density
$I_{ph}$	Current under light illumination
$I_{dark}$	Current under dark condition
A	Effective exposed irradiation area
$P_D$	Optical power density
D	Detectivity
$E_g$	Energy band Gap
$J_{Light}$	Current density under light
V	Voltage
$J_{dark}$	Current density under light
$I_{ph}$	Photogenerated Current
EQE	External Quantum Efficiency
$V_{bias}$	External Applied Voltage
e	Charge of electron
$P_{in}$	Input incident Power