

List of Abbreviations and Symbols

Abbreviation/ Symbol	Description
PV	Solar photovoltaic
CSP	Concentrating solar power
PVT	Photovoltaic/thermal collectors
PTC	Parabolic trough concentrators
GMR	Giant magnetoresistance
HOMO	Highest occupied molecular orbital
LUMO	Lowest unoccupied molecular orbital
DOS	Density of states
XRD	X ray diffraction
SEM	Scanning electron microscopy
FESEM	Field Emission scanning electron microscopy
TEM	Transmission electron microscopy
SPM	Scanning probe microscopy
STM	Scanning tunnelling microscopy
AFM	Atomic force microscopy
DLS	Dynamic light scattering
EDS or EDX	Energy dispersive X-ray spectroscopy
SSA	Solar selective absorber
CVD	Chemical vapour deposition
PVD	Physical vapor deposition
MCHS	Microchannel heat sink
DSC	Differential scanning calorimeter
CNP	Carbon nanoparticles
CNT	Carbon nanotubes
SWNT	Single walled carbon nanotubes
MWCNT	Multi-walled carbon nanotubes
SWCNH	Single wall carbon nanohorns
FPC	Flat plate collectors
CPC	Compound parabolic collectors

ETC	Evacuated tube collectors
CR	Concentration ratio
DASC	Direct absorption solar collector
PD	Parabolic dish
PT	Parabolic trough
SPR	Surface plasmon resonance
MEG or EG	Mono ethylene glycol or ethylene glycol
CTAB	Cetyl-trimethyl-ammonium-bromide
PVP	Polyvinylpyrrolidone
SLS	Sodium lauryl sulfate
IPA	Isopropyl alcohol
UV	Ultraviolet
RO	Reverse Osmosis
ASTM	American Society for Testing and Materials
TDS	Total dissolved solids
JCPDS	Joint Committee on Powder Diffraction Standards
FCC	Face centred cubic
TEOS	Tetraethyl orthosilicate
QD	Quantum dot
NW	Nanowire
NT	Nanotube