

List of Abbreviations

ADC	Analogue to Digital Convertor
APD	Avalanche Photo Diode
Al ₂ O ₃ :C	Carbon-doped Aluminum Oxide
BARC	Bhabha Atomic Research Centre
BeO	Beryllium Oxide.
CaCl ₂	Calcium Chloride
CaF ₂	Calcium Fluoride
CCD	Charge Coupled Device
CE	Collection Efficiency
CMOS	Complementary Metal Oxide Semiconductor
cps	counts per second
CW-OSL	Continuous-Wave Optically Stimulated Luminescence
DAC	Digital to Analogue Convertor
dSiPM	Digital Silicon Photomultiplier
EBCCD	Electron bombardment Charge Coupled Device
EMCCD	Electron Multiplying Charge Coupled Device
EMI	Electro-Magnetic Interference
FOV	Field of View
FPGA	Field Programmable Gate Array
FWHM	Full Width at Half Maximum
GUI	Graphical User Interface
HPD	Hybrid Photo Detector
ICCD	Intensified Charge Coupled Device
ICDD	International Center for Diffraction Data
IEEE	Electrical and Electronics Engineer
IRSL	Infrared Stimulated Luminescence
JCPDS	Joint Committee on Powder Diffraction Standard
LED	Light Emitting Diode
LiF	Lithium fluoride
LLD	Low Level Discriminator
LM-OSL	Linear Modulated Optically Stimulated Luminescence

MCP	Micro-Channel Plate
NCRP	National Council on Radiation Protection and Measurements
NEP	Noise Equivalent Power
NH ₄ F	Ammonium Fluoride
NIST	National Institute of Standards and Technology
OSL	Optically Stimulated Luminescence
PC	Photo Conductive
PDE	Photon Detection Efficiency
PDF	Powder Diffraction File
PL	Photoluminescence
PMT	Photomultiplier Tube
POSL	Pulsed Optically Stimulated Luminescence
PSL	Photo Stimulated Luminescence
PV	Photovoltaic
QE	Quantum Efficiency
RL	Radioluminescence
SiPM	Silicon Photo Multiplier
SNR	Signal to Noise Ratio
SPAD	Single Photon Avalanche Diode
TL	Thermoluminescence
TLD	Thermoluminescent Dosimeter
TSL	Thermally Stimulated Luminescence
UART	Universal Asynchronous Receiver/Transmitter
USB	Universal Serial Bus
ULD	Upper Level Discriminator
UV	Ultraviolet
VHDL	VHSIC Hardware Description Language
VHSIC	Very High Speed Integrated Circuit
XRD	X-Ray Diffraction