

## ACRONYMS AND ABBREVIATIONS

### A

AAN	Army After Next
AARL	Army Aviation Research Laboratory
AASERT	Augmentation Awards for Science and Engineering Research Training
ACTD	Advanced Concepts and Technology Demonstration
ADS	Advanced Distributed Simulation
AFDD	ATCOM Aeroflightdynamics Directorate
AFM	Atomic Force Microscopy
AFOSR	Air Force Office of Scientific Research
AIP	American Institute of Physics
AMC	Army Materiel Command
AMCOM	Aviation and Missile Command
AMO	atomic, molecular and optical
AMRDEC	Aviation and Missile Research, Development and Engineering Center
ARC	Advanced Research Center
ARDEC	Armament Research, Development and Engineering Center
ARI	Army Research Institute
AMRICD	Army Medical Research Institute for Chemical Defense
ARL	Army Research Laboratory
ARL/SEDD	Army Research laboratory/Sensors and Electron Devices Directorate
ARL/WMRD	Army Research Laboratory/Weapons and Materials Research Directorate
ARL/WTD	Army Research Laboratory/Weapons Technology
ARNG	Army National Guard
ARO	Army Research Office
ARO-FE	Army Research Office-Far East
ARO-LS	Army Research Office-Life Sciences
ARO-PA	Army Research Office-Pan America
ARO-W	Army Research Office-Washington
ARPA	Advanced Research Projects Agency
ASARDA	Assistant Secretary of the Army for Research, Development, and Acquisition
ASTMP	Army science and Technology Master Plan
ATCOM	Aviation and Troop Command
A TEC	Army Test and Evaluation Command
ATD	Advanced Technology Demonstration
ATIP	Advanced Technology Insertion Program
ATM	asynchronous transfer mode
ATR	automatic target recognition

### B

BAST	Board on Army Science and Technology
B-ISDN	Broadband Integrated Services Digital Network
BMDA	Ballistic Missile Defense Agency
BRL-CAD	Ballistic Research Laboratory-Computer Aided Design

## ACRONYMS AND ABBREVIATIONS

<b>C</b>	
C <sup>2</sup>	command and control
C <sup>3</sup>	command, control, and communications
C4ISR	Command, Control, Communications, Computing, Intelligence, Surveillance, and Reconnaissance
CAD	computer-aided design
CAD/CAM	computer-aided design/computer-aided manufacture
CAP	continuous assisted performance
CAPS	Computer-Aided Prototyping System
CARC	chemical agent resistant coatings
CARS	coherent anti-stokes Raman scattering
CB	chemical and biological
CBD	Chemical and Biological Defense
CBDCOM	Chemical and Biological Defense Command
CBI	Compton-backscatter imaging
CD	compact disk
CDMA	code division multiple access
CECOM	Communications Electronic Command
CERL	Corps of Engineers Research Laboratories
CICS	Center on Intelligent Control Systems
CIN/S	Complex Interactive Networks/Systems
CIP	combat information processor
CIS	Computing and Information Sciences
CMP	chemo-mechanical polishing
CNR	Combat Net Radio
CNT	carbon nanotube
COE	Center(s) of Excellence
CPT	cone penetrometer
CRREL	Cold Regions Research and Engineering Laboratory
CTI	Coherent Technologies, Inc.
CVD	chemical vapor deposition
CW&S	conferences, workshops, and symposia
<b>D</b>	
DARPA	Defense Advanced Research Projects Agency
DERA	Defense Evaluation and Research Agency
DAT	Destructive Absorption Technology
DBL	Digital Biomechanics Laboratory
DDR&E	Director, Defense Research and Engineering
DEM	digital elevation model
DEPSCoR	Defense Experimental Program to Stimulate Competitive Research
DERA	Defense Evaluation and Research Agency
DIS	distributed interactive simulation
DLC	diamond-like carbon
DMFC	direct oxidation methanol fuel cells

## ACRONYMS AND ABBREVIATIONS

DoD	U.S. Department of Defense
DoE	U.S. Department of Energy
DOP	depth of penetration
DPI	DoD Polygraph Institute
DPIV	digital particle image velocimetry
DRC	dendron rod coil
DS-CDMA	direct sequence code division multiple access
DTC	Developmental Test Command
DTRA	Defense Threat Reduction Agency
DURINT	Defense University Research Institution in Nanotechnology
DURIP	Defense University Research Instrumentation Program
DX	Data Exchange

### **E**

ECBC	Edgewood Chemical Biological Center
ECCM	electron counter countermeasures
EFP	explosively formed penetrators
EM	electromagnetic
EMI	electromagnetic induction
EMO	electronic, magnetic, and optical
EPRI	Electric Power Research Institute
EQA	equal channel angular
ERC	Engine Research Center
ERDEC	Edgewood Research, Development and Engineering Center
ERO	European Research Office

### **F**

FCS	Future Combat System
FDA	Food and Drug Administration
DFD	finite dimensional filter
FDTD	finite different time domain
FEA	field emitter arrays
FGM	functionally graded material
FISST	finite set statistics
FLIR	forward-looking infrared
FRI	focused research initiative
FY	fiscal year

### **G**

GFA	glass forming ability
GHz	gigahertz
GICUR	Governmental Industry Cooperative University Research
GIS	Geographic Information System
GPa	giga pascal
GPI	General Physics Institute

## ACRONYMS AND ABBREVIATIONS

GPR	ground penetrating radar
GPS	global positioning system
GSL	Geotechnical and Structures Laboratory

### **H**

HBCU/MI	Historically Black Colleges and Universities/Minority Institutions
HCES	high confidence embedded systems
HEL	high energy laser
HEMT	high-electron-mobility transistor
H&HS	Health and Human Services
HICIST	Human Intelligence Counterintelligence Support Tool
HQDA	Headquarters, Department of the Army
HQUSACE	Headquarters, U.S. Army Corps of Engineers
HRED	Human Research and Engineering Directorate
HSSMF	(Summer Associateship Program for) High School Science and Mathematics Faculty
HSTAMIDS	Handheld Standoff Mine Detection System
Hz	hertz

### **I**

IC	integrated circuit
ICASE	Institute for Computer Applications in Science and Engineering
ICB	Institute for Collaborative Biotechnologies
IEEE	Institute of Electrical and Electronics Engineers, Inc.
IFC	international fuel cells
IIL	imaging interferometric lithography
IMS	intelligent munitions systems
INEL	Idaho National Engineering Laboratory
IPC	interpenetrating phase composite coatings
IR	infrared
ISEP	International Science and Engineering Fair
ISI	Infrastructure Support Instrumentation
ISN	Institute for Soldier Nanotechnologies
ISP	Infrastructure Support Program

### **J**

JCIS	Joint Conference on Information Science
JPEG	Joint Photographic Experts Group
JSEP	Joint Services Electronics Program
JSHS	Junior Science and Humanities Symposium
JUXOCO	Joint Unexploded Ordnance Coordinating Office

### **K**

K	Kelvin
km	kilometer

## ACRONYMS AND ABBREVIATIONS

### **L**

LANL	Los Alamos National Laboratory
LC	liquid crystal
LCD	liquid crystal display
LDV	laser-Doppler velocimetry
LED	light emitting diode
LES	large eddy simulation
LIA	logistics integration activity
LIDAR	laser radar
LLNL	Lawrence Livermore National Laboratory
LMR	lateral migration radiography
LPI	low probability of interception
LRCP	Laboratory Research Cooperative Program

### **M**

MAD	mesoscale actuator device
MBE	molecular beam epitaxy
MCAGCC	Marine Corps Air Ground Combat Center
MCNC	Microelectronics Center of North Carolina
MDA	Missile Defense Agency
MEA	membrane electrode assembly
MEMS	microelectromechanical systems
MEP	mobile electric power
MESFET	metal epitaxial semiconductor field effect transistor
MHz	megahertz
MICOM	(Army) Missile Command
MIMD	multiple instruction, multiple data
MIME	mixed-mode electronics
MIND	meandering instantaneous diffusion
MIP	molecular imprinted polymer
MIRSL	Microwave Remote Sensing Laboratory
MITS	(IEEE) Microwave Theory and Techniques Society
ML	majority logic
MM	manually mixing technology
MMC	metal matrix composites
MMI	Michigan Molecular Institute
MMLRR	multimedia least resistance routing
MMW	millimeter wave
MOCVD	metal-organic chemical vapor deposition
MOMBE	molecular beam epitaxy
MOOSE	Multispectral Omnidirectional Optical Sensor
MOT	magneto-optic trap
MPa	mega pascal
MPA	multipass amplifier
MQW	multiple quantum well

## ACRONYMS AND ABBREVIATIONS

MRMC	Medical Research and Materiel Command
MS	Materials Science (Division)
MTF	modulation transfer function
MTT-S	Microwave Theory and Techniques Society
MUD	Multiuser Detection
MURI	Multidisciplinary University Research Initiative (Program)
mW	milliwatt

### N

NASA	National Aeronautics and Space Administration
NATO	North Atlantic Treaty Organization
NBC	nuclear, biological, and chemical
NBIF	National Biotechnology Information Facility
NBL	nocturnal boundary layer
NDSEG	National Defense Science and Engineering Graduate (Fellowship Program)
NIST	National Institute of Standards and Technology
nm	nanometer
NPS	Naval Postgraduate School
NRDEC	Natick Research, Development and Engineering Center
NSC	Natick Soldier Center
NSF	National Science Foundation
NVEOSD	Night Vision and Electro-Optics Systems Directorate
NVL	Night Vision Lab

### O

O&S	operation and support
OACSIM	Office of Assistant Chief of Staff Installation Management
OCB	Operation Cherry Blossom
OCONUS	outside continent of United States
ODDRE	Office of the Director for Defense Research and Engineering
OEIC	optoelectronic integrated circuits
OF	Objective Force
OMA	Operations and Maintenance Army
ONR	Office of Naval Research
ORNL	Oak Ridge National Laboratory
OSCR	operations and support cost reduction
OSD	Office of the Secretary of Defense
OUSD	Office of the Under Secretary of Defense

### P

PC	personal computer
PCR	polymerase chain reaction
PDI	point diffraction interferometry
PE	process element

## ACRONYMS AND ABBREVIATIONS

PECASE	Presidential Early Awards for Scientists and Engineers
PEM	proton exchange membrane
pHEMT	p-type high electron mobility transistor
PIV	particle imaging velocimetry
PLIF	planar laser-induced fluorescence
PLRCP	Post Laboratory Research Cooperative Program
PSD	Physical Sciences Directorate
PSFREP	Post Summer Faculty Research and Engineering Program
PZT	piezo electric ceramics

### Q

QCL	quantum cascade laser
QCT	quasi-classical trajectory
QDIP	quantum dot infrared photodetector
QDSL	quantum dot superlattice structures
QoS	quality of service
QR	quadruple resonance
QWIP	quantum well infrared photodetector
QWP	quarter-wave plate

### R

R&D	research and development
RAM	random access memory
RANS	Reynolds-averaged Navier-stokes solver
RDEC	Research, Development and Engineering Center
RDT&E	Research, Development, Test and Evaluation
REAP	Research and Engineering Apprenticeship Program
RE	rare earth
RF	radio frequency
RFI	radio frequency interference
RIACS	Research Institute for Advanced Computer Science
RLS	recursive least squares
RPA	random phase approximation
RPI	Rensselaer Polytechnic Institute
RSA	reverse saturable absorber
RSTA	reconnaissance, surveillance, and target acquisition
RTI	Research Triangle Institute
RTM	resin transfer molding

### S

SACC	Strategic and Advanced Computing Center
SAM	self-assembled monolayers
SANS	small neutron scattering
SAW	surface acoustic waves
SAXS	small-angle x-ray scattering

## ACRONYMS AND ABBREVIATIONS

SBCCOM	Soldier Biological and Chemical Command
SBIR	Small Business Innovation Research (Program)
SCAPS	site characterization and penetrometer system
SCF	surface crack inflexure
SCWO	supercritical water oxidation
SEDD	Sensors and Electronics Devices Directorate
SERDP	Strategic Environmental Research, Development Program
SET	single-electron transistors
SEVNB	single edge V-notch beam
SFM	surface force microscopy
SFREP	Summer Faculty Research and Engineering Program
SGS	subgrid scale
SHIFT	simulation of hybrid multi-modal systems
SHS	self-propagating high temperature synthesis
SINCGARS	Single Channel Ground and Airborne Radio System
SKBS	Software and Knowledge-based Systems
SLAP	Sabot launched armor penetrator
SMDC	Space and Missile Defense Command
SME	science, mathematics, and/or engineering
SMMW	submillimeter wave
SNL	Sandia National Laboratories
SPH	smooth particle hydrodynamics
SPICE	simulation program for integrated circuit emulation
SSCOM	Soldier Systems Command
SSP	Scientific Services Program
STAR	scaled tangent rotation
STAS	short term analysis services
STIR	Short Term Innovative Research (Program)
STM	scanning tunnelling microscopy
STO	Science and Technology Objectives
STRICOM	Simulation, Training and Instrumentation Command
STTR	Small Business Technology Transfer (Program)

### **T**

T	tesla
TACOM	Tank-Automotive and Armament Command
TARDEC	Tank and Automotive Research, Development and Engineering Center
TCP/IP	transport control protocol/Internet protocol
TCU	Tribal Colleges and Universities
TE	thermoelectric
TEC	Topographic Engineering Center
TECOM	Test and Evaluation Command
TEP	turbulence eddy profiler
THz	terahertz
TOPS	Turnable Optical Polymer Systems

## ACRONYMS AND ABBREVIATIONS

TIN	triangulated irregular networks
TRAC	Training and Doctrine Command Analysis Center
TRADOC	Training and Doctrine Command
TTCP	The Technical Cooperation Programs
<b><u>U</u></b>	
UCF	universal conductance fluctuations
UHF	ultra high frequency
URI	University Research Initiative
UNITE	Uninitiates Introduction to Engineering
URISP	University Research Initiative Support Program
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USCG	U.S. Coast Guard
USDI	U.S. Department of Interior
USMC	U.S. Marine Corps
USN	U.S. Navy
USRDSG-UK	U.S. Research, Development, and Standardization Group-United Kingdom
UV	ultra violet
UWB	ultra wide bandwidth
UXO	unexploded ordinance
<b><u>V</u></b>	
VCO	voltage controlled oscillator
VCSEL	vertical cavity surface emitting laser
VESPER	Visualization Environment for Supporting Photogrammetry Exploitation Research
VHSIC	very high-speed integrated circuit
VISTA	very intelligent surveillance and target acquisition
VLC	variable length coding
VLSI/ULSI	very-large-scale and ultra-large-scale integration
<b><u>W</u></b>	
WAXD	wide-angle x-ray diffraction
WDM	wavelength division multiplexing
WES	Waterways Experiment Station
WMRD	Weapons and Materials Research Directorate
WMD	weapons of mass destruction
WRAIR	Walter Reed Army Institute of Research
WSR-88D	Weather Surveillance Radar 1988-Doppler
<b><u>Y</u></b>	
YIP	Young Investigator Program