List of Acronyms and Abbreviations

1-D	one-dimensional
2-D	two-dimensional
3-D	three-dimensional
AAS	American Astronomical Society
AEC	Atomic Energy Commission
AEDC	Arnold Engineering Development Center
AFPL	Air Force Phillips Laboratory
AFRL	Air Force Research Laboratory
AFWL	Air Force Weapons Laboratory
AGT	aboveground test
AGU	American Geophysical Union
AIRAPT	International Association of High Pressure Science and Technology
AIAA	American Institute of Aeronautics and Astronautics
ALE	arbitrary Lagrangian-Eulerian
ALEGRA	Arbitrary Lagrangian Eulerian General Research Applications
ANEOS	analytic equation of state
ANFO	ammonium nitrate and fuel oil
APS	American Physical Society
ARA	Aeroballistic Range Association
ARL	Army Research Laboratory
ASCI	Accelerated Strategic Computing Initiative
AT&T	American Telephone and Telegraph
AWE	Atomic Weapons Establishment
BBAY	Bethe, Bade, Averell, Yos
BKW	Becker–Kistiakowsky–Wilson
BN	Bechtel Nevada (corporation)
B-N	Baer–Nunziato
BRACIS	beam reflection at center of impact surface
BRL	Ballistic Research Laboratory
CDAR	Coupled Damage And Reaction

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CDC	Control Data Corporation
CHARTD	Coupled Hydrodynamics and Radiation Transport Diffusion
CINT	Center for Integrated Nanotechnologies
CJ	Chapman-Jouguet
CLP	Corporate Lethality Program
CSQ	CHARTD SQuared
CTBT	Comprehensive Test Ban Treaty
CTH	CSQ to the Three Halves
DAC	diamond anvil cell
DASA	Defense Atomic Support Agency
DARPA	Defense Advanced Research Projects Agency
DDT	deflagration-to-detonation transition
DFT	density functional theory
DICE	Dynamic Integrated Compression Experimental
DMTS	Distinguished Member of Technical Staff
DNA	Defense Nuclear Agency
DOD	Department of Defense
DOE	Department of Energy
DTRA	Defense Threat Reduction Agency
EBW	exploding bridgewire
EEGS	Electrical Energy Gun System
ECF	Explosive Components Facility
EHVL	enhanced hypervelocity launcher
EOS	equation of state
ERDA	Energy Research and Development Administration
ES&H	Environment, Safety, and Health
FE	ferroelectric
FEM	ferroelectric model
GM	General Motors
GRL	Geophysical Research Letters
GRC	General Research Corporation
HARP	Hazards Assessment of Rocket Propellants
HE	high explosive
HEDP	high energy density physics
HEL	Hugoniot elastic limit
HNX	hexanitrostilbene explosive
HPC	high performance computing
HST	Hubble Space Telescope
HVIS	Hypervelocity Impact Symposium
HVL	HyperVelocity Launcher
IBM	International Business Machines
ICBM	intercontinental ballistic missile
ICE	isentropic compression experiment
ICF	inertial confinement fusion
IIT	Illinois Institute of Technology

ISL	Institut de Recherches de Saint-Louis
ISP	Institute of Shock Physics
ISS	International Space Station
IUTAM	International Union of Theoretical and Applied Mechanics
IVA	inductive voltage adder
JASPER	Joint Actinide Shock Physics Experimental Research
JCZ	Jacobs-Cowperthwaite-Zwisler
JANAF	Joint Army Navy Air Force (sometimes written as JANNAF to include NASA)
JMP	Joint Munitions Program
JSC	Johnson Space Center
JWL	Jones–Wilkins–Lee
KFK	Kernforschungszentrum Karlsruhe (Karlsruhe Institute of Technology)
LANL	Los Alamos National Laboratory
LDRD	Laboratory Directed Research and Development
LEO	low-Earth orbit
LIHE	light initiated high explosive
LMD	Lee-More-Desjarlais
LLNL	Lawrence Livermore National Laboratory
LTD	linear transformer driver
M&S	modeling and simulation
MAD	mutually assured destruction
MAPS	magnetically applied pressure shear
MAVEN	Model Accreditation via Experimental Sciences for Nuclear Weapons
MBBAY	Modified BBAY
MD	molecular dynamics
MDA	Missile Defense Agency
MF	magnetic flyer
MHD	magnetohydrodynamic
MIT	Massachusetts Institute of Technology
MITL	magnetically insulated transmission line
MOU	memorandum of understanding
MP	melting point
MPP	massively parallel processing
MSFC	Marshall Space Flight Center
NAE	National Academy of Engineering
NASA	National Aeronautics and Space Administration
NIF	National Ignition Facility
NIST	National Institute of Standards and Technology
NNSA	National Nuclear Security Administration
NNSS	Nevada National Security Site
NSWC	Naval Surface Weapons Center
NTS	Nevada Test Site
NRL	Naval Research Laboratory
ODE	ordinary differential equation

OMA	Optical Multichannel Analyzer
ORVIS	Optically Recorded Velocity Interferometer System
OSD	Office of the Secretary of Defense
P-α	Pressure-α (model)
P-λ	Pressure-λ (model)
PBFA II	Particle Beam Fusion Accelerator II
PBX	polymer-bonded explosive
PCTH	Parallel CTH
PDF	probability density function
PDV	photon Doppler velocimetry
PETN	pentaerythritol tetranitrate
PIC	particle in cell
PMMA	polymethyl methacrylate
PG	powder gun
PPG	Pacific Proving Ground
PVDF	polyvinylidene difluoride
PZT	Pb (lead) zirconate titanate
QMD	quantum molecular dynamics
R&D	research and development
RG	railgun
RHALE	Robust Hydrodynamics Arbitrary Lagrangian Eulerian
RPI	Rensselaer Polytechnic Institute
R-T	Rayleigh-Taylor
SCCM	Shock Compression of Condensed Matter
SCE	subcritical experiment
SDI	Strategic Defense Initiative
SDIO	Strategic Defense Initiative Organization
SITI	Sandia Instrumented Thermal Initiation
SL9	Shoemaker–Levy 9 comet
SLIFER	Shorted Location Indicator by Frequency of Electrical Resonance
SNL	Sandia National Laboratories
SNM	special nuclear material
SPH	smooth particle hydrodynamics
SPR	Strategic Petroleum Reserve
SRI	Stanford Research Institute
SSP	Stockpile Stewardship Program
STAR	Shock Thermodynamics Applied Research
STScI	Space Telescope Science Institute
SWAP	Stress Wave Application Program
TARDEC	Tank Automotive Research, Development, and Engineering Center
TATB	triaminotrinitrobenzene
TBF	Terminal Ballistics Facility
THAAD	Theater High-Altitude Area Defense
TOE	third-order elastic
TMD	Theater Missile Defense
TMI	Three Mile Island

TIM	transient insertion mechanism
TP	triple point
TSG	Two-Stage light gas Gun
TTBT	Threshold Test Ban Treaty
UGT	underground nuclear test
UK	United Kingdom
U.S.	United States
VASP	Vienna Ab initio Simulation Package
VISAR	Velocity Interferometer System for Any Reflector
VSIP	Volunteer Staff Incentive Program
V&V	verification and validation
WDM	warm dense matter
WIPP	Waste Isolation Pilot Plant
WSU	Washington State University
XDT	explosive detonation transition
XRD	x-ray diode
YAG laser	neodymium-doped yttrium aluminum garnet ($Nd{:}Y_3Al_5O_{12}$) laser
Z	Z pulsed power facility
ZND	Zeldovich–von Neumann–Doring

Bibliography

Editors' Note Because of the extent of our bibliography, which contains nearly 1000 entries, it is somewhat unique in the following respects, as summarized below.

- The order of the entries in the bibliography is alphabetical by the first author chronologically by year. Entries in the same year for that same first author with one coauthor come next in the bibliography—that is, author 1 and author 2 (year). This is followed by entries in the same year for that same first author with multiple coauthors, *regardless of the alphabetical ordering of those coauthors*, using the customary a, b, and c notation for that specific year if there is more than one reference for that same first author with two or more coauthors—for example, author 1, author 2, and author 3 (year a); author 1, author 2, author 3 (year b); and author 1, author 2, author 3 et al. (year c).
- Our bibliography does contain some references by first authors that have the same last name but that are distinctly different individuals. An example of this occurs on the first page of our bibliography: entry in our bibliography and M. U. Anderson is the first author of the fifth entry in our bibliography. Another example is the four distinct first-author Browns (J. L. Brown, P. G. Brown, W. K. Brown, and W. T. Brown). Because of this, in the text of Part I and Part II of our book, you will find instances where three or four authors are listed, followed by the year—for example, (author 1, author 2, author 3, year) rather than our usual (author 1 et al., year).

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DOI 10.1007/978-3-319-33347-2

Index of Terms

J.R. Asay et al., *Impactful Times*, Shock Wave and High Pressure Phenomena,
DOI 10.1007/978-3-319-33347-2

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