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APPENDIX A

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APPENDIX D

Major Acronyms and Abbreviations

AAOE	Airborne Antarctic Ozone Experiment
AASE	Airborne Arctic Stratospheric Expedition
AER	Atmospheric and Environmental Research, Inc.
AERE	Atomic Energy Research Establishment (UK)
AFCRL	Air Force Cambridge Research Laboratories
AFEAS	Alternative Fluorocarbon Environmental Acceptability Study
AFGL	Air Force Geophysical Laboratory
AGU	American Geophysical Union
AIAA	American Institute of Aeronautics and Astronautics, Inc.
ALE/GAGE	Atmospheric Lifetime Experiment-Global Atmospheric Gases Experiment
AMAP	Association for Meteorology and Atmospheric Physics
ARC	Ames Research Center (NASA)
ATMOS	Atmospheric Trace Molecule Spectroscopy
AVHRR	Advanced Very High Resolution Radiometer
BaU	Business as Usual
BLP	Bromine Loading Potential
BOIC	Balloon Ozone Intercomparison Campaign
BUV	Backscatter Ultraviolet Spectrometer
CAMED-P	University of Cambridge and University of Edinburgh
CCN	Cloud Condensation Nuclei
CFC	Chlorofluorocarbon
CFM	Chlorofluoromethane
CHEOPS	CHemistry of Ozone in the Polar Stratosphere
CIMO	Commission on Instrument and Method of Observation
CIRA	COSPAR International Reference Atmosphere
CLP	Chlorine Loading Potential
CMA	Chemical Manufacturers Association
CMDL	Climate Monitoring and Diagnostics Laboratory (NOAA, U.S.)
CMRN	Cooperative Meteorological Rocketsonde Network
CNRS	Centre National de la Recherche Scientifique (France)
COSPAR	Committee on Space Research
CPOZ	Compressed Profile Ozone
CSIR	Council for Scientific and Industrial Research Organization (South Africa)
CSIRO	Commonwealth Scientific and Industrial Research Organization (Australia)
DCA	Detector capsule assembly
DU	Dobson Unit

ACRONYMS

ECC	Electrochemical cell (ozonesonde)
ECMWF	European Center for Medium-Range Weather Forecasts
EGA	Emissivity growth approximation
EI	Emission Index
EMR	Electromagnetic radiation
ENSO	El Niño-Southern Oscillation
EOS	Earth Observing System
ERBS	Earth Radiation Budget Satellite
ERL	Environmental Research Laboratory (NOAA)
ESA	European Space Agency
EUV	Erythemal UV
FDH	Fixed Dynamical Heating
FGGE	First GARP Global Experiment
FIAER	Fraunhofer Institute for Atmospheric Environmental Research (Germany)
FOV	Field of view
GAGE	Global Atmospheric Gases Experiment
GARP	Global Atmospheric Research Program
GFDL	Geophysical Fluid Dynamics Laboratory
GHRIS	Goddard High Resolution Spectrograph
GIT	Georgia Institute of Technology (United States)
GMCC	Geophysical Monitoring for Global Change (NOAA)
GMT	Greenwich Mean Time
GSFC	Goddard Space Flight Center (NASA)
GWP	Global Warming Potential
HCFC	Hydrochlorofluorocarbon
HFC	Hydrofluorocarbon
HIRS	High Resolution Infrared Radiation Sounder
hPa	hectoPascal
HSCT	High Speed Civil Transports
HSRP	High Speed Research Program
IAGA/IAMAP	International Association for Geomagnetism and Aeronomy/International Association for Meteorology and Atmospheric Physics
ICAO	International Civil Aviation Organization
ICSU	International Council of Scientific Unions
IFC	Inflight calibrator
IFOV	Instrument field of view
IGY	International Geophysical Year
INPE	Brazilian space agency
IOC	International Ozone Commission
IPCC	Intergovernmental Panel on Climate Change
IPV	Isentropic potential vorticity
IR	Infrared

ACRONYMS

JPL	Jet Propulsion Laboratory
LAMAT	LIMS Map Archival Tapes
LaRC	Langley Research Center (NASA)
LASP	Laboratory for Atmospheric and Space Physics (University of Colorado)
LIMS	Limb Infrared Monitor of the Stratosphere
LLNL	Lawrence Livermore National Laboratory
LRIR	Limb Radiance Inversion Radiometer
LTE	Local Thermodynamic Equilibrium
MAP	Middle Atmosphere Program
MLS	Mid-Latitude Summer
MPIA	Max Planck Institute for Aeronomy (Germany)
MRI	Meteorological Research Institute (Japan)
MSU	Microwave Sounding Unit
NASA	National Aeronautics and Space Administration
NASP	National Aerospace Plane
NBS	National Bureau of Standards (now NIST)
NCAR	National Center for Atmospheric Research (U.S.)
NDSC	Network for the Detection of Stratospheric Change
NESD1S	National Environmental Satellite Data and Information Service
NILU	Norsk Institute for Luftforskning (Oslo)
NIR	Near infrared
NIST	National Institute of Standards and Technology (formerly NBS) (U.S.)
NMC	National Meteorological Center
NMHCs	Non-methane hydrocarbons
NOAA	National Oceanic and Atmospheric Administration
NOAA/AL	National Oceanic and Atmospheric Administration/Aeronomy Laboratory
NOAA-CMDL	National Oceanic and Atmospheric Administration—Climate Monitoring and Diagnostics Laboratory
NOZE	National Ozone Expedition
NPL	National Physical Laboratory (United Kingdom)
NRC	National Research Council
NRL	Naval Research Laboratory
NSSDC	National Space Science Data Center
OAG	Official Airline Guide
ODP	Ozone Depletion Potential
ODW	Ozone Data for the World
OEDC	Organization for Economic Cooperation and Development (Paris, France)
OGC	Oregon Graduate Center (now OGIIST) (U.S.)
OGIST	Oregon Graduate Institute for Science and Technology
OGO	Orbiting Geophysical Observatory
OPT	Ozone Processing Team
OTP	Ozone Trends Panel

ACRONYMS

PAN	Peroxyacetyl nitrate
PMR	Pressure Modulated Radiometer
PMT	Photomultiplier tube
PNW	Pacific North West region of the United States
PPN	Peroxypropionyl nitrate
PSCs	Polar Stratospheric Clouds
PV	Potential Vorticity
QBO	Quasi-Biennial Oscillation
RAF	Radiative Amplification Factor
RAOB	Rawinsonde Observation
RB	Robertson-Berger Network
ROCOZ	Rocket Ozone sonde
SAGE	Stratospheric Aerosol and Gas Experiment
SAM II	Stratospheric Aerosol Measurement
SAMS	Stratospheric and Mesospheric Sounder
SAO	Smithsonian Astrophysical Observatory (Cambridge, MA)
SBUV	Solar Backscatter Ultraviolet Spectrometer
SCOSTEP	Scientific Committee on Solar Terrestrial Physics
SCR	Selective Chopper Radiometer
SIO	Scripps Institution for Oceanography
SIRIS	Stratospheric InfraRed Interferometer Spectrometer
SME	Solar Mesosphere Explorer
SMM	Solar Maximum Mission
SOI	Southern Oscillation Index
SPEs	Solar Proton Events
SSU	Stratospheric Sounding Unit
SZAs	Solar Zenith Angles
THIR	Temperature Humidity Infrared Radiometer
TIROS	Television and Infrared Observation Satellite
TOMS	Total Ozone Mapping Spectrometer
TOVS	TIROS Operational Vertical Sounder
UADP	Upper Atmosphere Data Program
UARS	Upper Atmosphere Research Satellite
UCI	University of California at Irvine (United States)
UEA	University of East Anglia (United Kingdom)
UKMO	United Kingdom Meteorological Office
UNEP	United Nations Environment Program
UT	University of Tokyo (Japan)
UV	Ultraviolet
UVB	Ultraviolet-B

ACRONYMS

UVS	Ultraviolet Spectrometer
UVSP	Ultraviolet Spectrometer and Polarimeter
VTPR	Vertical Temperature Profile Radiometer
WMO	World Meteorological Organization
WODC	World Ozone Data Center

CHEMICAL FORMULAE AND NOMENCLATURE

Appendix E

Chemical Formulae and Nomenclature

Symbol	Name	Symbol	Name
O	Atomic oxygen	CH ₂ O	Formaldehyde
O ₂	Molecular oxygen	CH ₃ CHO	Acetaldehyde
O ₃	Ozone	(CH ₃) ₂ CO	Acetone
O _x	Odd oxygen (O, O(¹ D), O ₃)	CH ₃ O ₂ H	Methyl hydroperoxide
N ₂	Molecular nitrogen	CH ₂ CHCHO	Acrolein
N ₂ O	Nitrous oxide	C ₂ Cl ₄	Tetrachloroethylene
NO	Nitric oxide	CH ₃ Cl	Methyl chloride
NO ₂	Nitrogen dioxide	CH ₂ Cl ₂	Dichloromethane
NO ₃	Nitrogen trioxide, nitrate radical	CHCl ₃	Chloroform, trichloromethane
NO _y	Odd nitrogen (NO, NO ₂ , NO ₃ , N ₂ O ₅ , ClONO ₂ , HNO ₄ , HNO ₃)	CFC	Chlorofluorocarbon
NO _x	Oxides of nitrogen (NO, NO ₂ , NO ₃)	HC	Hydrocarbon
N ₂ O ₅	Dinitrogen pentoxide	NMHC	Nonmethane hydrocarbons
HNO ₂ , HONO	Nitrous acid	PAN	Peroxyacetylnitrate
HNO ₃ , HONO ₂	Nitric acid	CH ₃ CCl ₃	Methyl chloroform
HNO ₄ , HO ₂ NO ₂	Peroxynitric acid	C ₂ F ₆	Hexafluoroethane
NH ₃	Ammonia	CCl ₄	Carbon tetrachloride
H ₂ O	Water vapor	CCl ₃ F	Trichlorofluoromethane (CFC-11)
H ₂ O ₂	Hydrogen peroxide	CCl ₂ F ₂	Dichlorodifluoromethane (CFC-12)
OH, HO	Hydroxyl radical	CClF ₃	Chlorotrifluoromethane (CFC-13)
HO ₂	Hydroperoxyl radical	CF ₄	Tetrafluoromethane
HO _x	Odd hydrogen (OH, HO ₂ , H ₂ O ₂)	CHCl ₂ F	Dichlorofluoromethane (HCFC-21)
CO	Carbon monoxide	CHClF ₂	Chlorodifluoromethane (HCFC-22)
CO ₂	Carbon dioxide	CCl ₂ FCClF ₂	Trichlorotrifluoroethane (CFC-113)
CS ₂	Carbon disulfide	CClF ₂ CClF ₂	Dichlorotetrafluoroethane (CFC-114)
COS, OCS	Carbonyl sulfide		

CHEMICAL FORMULAE AND NOMENCLATURE

SO ₂	Sulfur dioxide	CClF ₂ CF ₃	Chloropentafluoroethane (CFC-115)
SF ₆	Sulfur hexafluoride		
H ₂ SO ₄	Sulfuric acid	CF ₃ CF ₃	Hexafluoroethane
HF	Hydrogen fluoride	CH ₃ CN	Methyl cyanide
HCl	Hydrogen chloride	CH ₃ I	Methyl iodide
HCN	Hydrogen cyanide	Br	Bromine atom
HOCl	Hypochlorous acid	BrO	Bromine monoxide
Cl	Chlorine atom	Br _x	Odd bromine, inorganic bromine
ClO	Chlorine monoxide		
ClONO ₂ , ClNO ₃	Chlorine nitrate	CBrF ₃	Trifluorobromomethane
Cl _x	Odd chlorine, inorganic chlorine	CHBr ₃	Bromoform, tribromomethane
CH ₄	Methane	CH ₃ Br	Methyl bromide
C ₂ H ₆	Ethane	CH ₂ Br ₂	Dibromomethane
C ₃ H ₈	Propane	CHBr ₂ Cl	Dibromochloromethane
C ₂ H ₄	Ethylene	C ₂ H ₄ Br ₂	Dibromoethane
C ₂ H ₂	Acetylene	CBrClF ₂	Halon 1211
		CF ₃ Br	Halon 1301