
APPENDIX A

Acronyms and Chemical Nomenclature

ACRONYMS

ACE	Atmospheric Chemistry Experiment
AFEAS	Alternative Fluorocarbons Environmental Acceptability Study
AGAGE	Advanced Global Atmospheric Gases Experiment
ALE	Atmospheric Lifetime Experiment
ASHOE	Airborne Southern Hemisphere Ozone Experiment
ASTRO-SPAS	Astronomical Shuttle Pallet Satellite
ATMOS	Atmospheric Trace Molecule Spectroscopy Experiment
BDC	Brewer-Dobson circulation
CAM4	Community Atmosphere Model Version 4 (NCAR)
CCM	chemistry climate model
CCMI	Chemistry-Climate Modelling Initiative
CCMVAL	Chemistry-Climate Model VALidation activity for SPARC
CESM	Community Earth System Model
CFC	chlorofluorocarbon
CIRRUS	Cryogenic Infrared Radiance Instrumentation for Shuttle
CLAES	Cryogenic Limb Array Etalon Spectrometer
CMIP	Coupled Model Intercomparison Project
CNRS	Centre National de la Recherche Scientifique (France)
CONST	constant boundary conditions
CRISTA	Cryogenic Infrared Spectrometers and Telescopes for the Atmosphere
CTM	chemical transport model
ESRL	Earth System Research Laboratory (NOAA)
FBC	flux boundary conditions
FTS	Fourier transform spectrometer
GAGE	Global Atmospheric Gases Experiment
GAL	global atmospheric lifetime
GHG	greenhouse gas
GEOS	Goddard Earth Observing System
GSFC	Goddard Space Flight Center
GWP	global warming potential
HAGAR	High Altitude Gas Analyser
HALOE	Halogen Occultation Experiment
Halon	halomethane or fluorochlorobromocarbon
HCFC	hydrochlorofluorocarbon
HFC	hydrofluorocarbon
HIRDLS	High Resolution Dynamics Limb Sounder
IPCC	Intergovernmental Panel on Climate Change
IR	infrared
IUPAC	International Union of Pure and Applied Chemistry
JPL	Jet Propulsion Laboratory
km	kilometer
MAESA	Measurements for Assessing the Effects of Stratospheric Aircraft
MBC	mixing ratio boundary condition
MIPAS	Michelson Interferometer for Passive Atmospheric Sounding
MLS	Microwave Limb Sounder

MPI	Max-Planck-Institut (Germany)
NASA	National Aeronautics and Space Administration
NCAR	National Center for Atmospheric Research
NDRL/NIST	Notre Dame Radiation Laboratory/National Institute of Standards and Technology
NIWA	National Institute of Water and Atmospheric Research (New Zealand)
nm	nanometer
NMHC	non-methane hydrocarbons
NOAA	National Oceanic and Atmospheric Administration
ODS	ozone depleting substance
ODP	ozone depletion potential
ppb, ppm, ppt	parts per parts per billion, million, trillion
PSS	photochemical steady state
QBO	quasi-biennial oscillation
QPS	quarantine and pre-shipment
RAS	relaxed Arakawa Schubert
RCP	Representative Concentration Pathway
SAD	surface area densities
SAMS	Stratospheric And Mesospheric Sounder
SICs	sea ice concentrations
SOGE	System for Observation of halogenated Greenhouse gases in Europe
SORCE	Solar Radiation and Climate Experiment
SPARC	Stratospheric Processes and Their Role in Climate
SR	stratospheric removal
SST	sea surface temperature
TR	tropospheric removal
TUV	Tropospheric and Ultraviolet Visible
UARS	Upper Atmosphere Research Satellite
UC Irvine	University of California, Irvine
UEA	University of East Anglia
UM	unified model
UNEP	United Nations Environment Programme
UV	ultraviolet
VMR	volume mixing ratio
VOC	volatile organic compound
VSLs	very short-lived species
VUV	vacuum ultraviolet
WACCM4	Whole-Atmosphere Community Climate Model Version 4
WCRP	World Climate Research Programme
WMO	World Meteorological Organization
1-D	one-dimensional
2-D	two-dimensional
3-D	three-dimensional

CHEMICAL NOMENCLATURE

Br	atomic bromine
BrO	bromine monoxide
C ₂ H	ethynyl radical
CCl ₄	carbon tetrachloride
CF ₂ Cl ₂	dichlorodifluoromethane
CFCl ₃	trichlorofluoromethane
CHBr ₃	bromoform
CH ₂ Br ₂	dibromomethane
CH ₃ Br	methyl bromide, bromomethane
CH ₃ CCl ₃	methyl chloroform
CH ₄	methane
Cl	atomic chlorine
ClO	chlorine monoxide
Cl _x	inorganic chlorine oxides
CO	carbon monoxide
CO ₂	carbon dioxide
H	atomic hydrogen
H ₂ O	water
HO _x	odd hydrogen (H, OH, HO ₂ , H ₂ O ₂)
N ₂ O	nitrous oxide
NF ₃	nitrogen trifluoride
NO	nitric oxide
NO ₃	nitrogen trioxide
NO _x	nitrogen oxides (NO + NO ₂)
NO _y	total reactive nitrogen
O(³ P)	atomic oxygen (ground state)
O(¹ D)	atomic oxygen (first excited state)
O ₂	molecular oxygen
O ₃	ozone
OH	hydroxyl radical
CCl ₃ F	CFC-11
CCl ₂ F ₂	CFC-12
CCl ₂ FCClF ₂	CFC-113
CClF ₂ CClF ₂	CFC-114
CCl ₂ FCF ₃	CFC-114a
CClF ₂ CF ₃	CFC-115
CBr ₂ F ₂	Halon-1202
CBrClF ₂	Halon-1211
CBrF ₃	Halon 1301
CBrF ₂ CBrF ₂	Halon-2402
CH ₃ Cl	HCC-40
CHClF ₂	HCFC-22
CH ₃ CCl ₂ F	HCFC-141b
CH ₃ CClF ₂	HCFC-142b
CHF ₃	HFC-23

CH_2F_2	HFC-32
CHF_2CF_3	HFC-125
CH_2FCF_3	HFC-134a
CH_3CF_3	HFC-143a
CH_3CHF_2	HFC-152a
$\text{CF}_3\text{CHFCF}_3$	HFC-227ea
$\text{CHF}_2\text{CH}_2\text{CF}_3$	HFC-245fa