

List of Abbreviations

μA	microampere
μm	micrometers
ADEQ	Arizona Department of Environmental Quality
Al	aluminum
As	arsenic
Asarco	American Smelting and Refining Company
BAM	Beta Attenuation Monitor
BEIS-II	Biogenic Emission Inventory System Version 2
BELD	Biogenic Emissions Landcover Database
BER	Basic emission rate
BRAVO	Big Bend Regional Aerosol and Visibility Observational Study
Ca	calcium
CAMS	Continuous Air Monitoring Station
CCA	canonical correlation analysis
Cd	cadmium
CEC	Commission for Environmental Cooperation
CENRAP	Central Regional Air Planning Association
CERM	Center for Environmental Resource Management at UTEP
CMB	chemical mass balance
CO	carbon monoxide
CO ₂	carbon dioxide
COAs	Cédulas de Operación (Annual Operating Reports)
COI	compounds of interest
Cr	chromium
Cu	copper
DCP	direct current plasma
DGEPSC	Ciudad Juárez General Directorate of Ecology and Public Safety
DRI	Desert Research Institute
ECG	electrocardiogram
EDCJ	Environmental Department of Ciudad Juárez
EDX	energy dispersive x-ray spectrometer
EIIP	Emissions Inventory Improvement Program
EPA	U.S. Environmental Protection Agency
EPCCHED	El Paso City-County Health and Environmental District
ev	electron volts
Fe	iron
FFT	Fast Fourier Transform
FRM	Federal Reference Method
GC	gas chromatography

GC/MS	gas chromatography/mass spectrometry
GCVTC	Grand Canyon Visibility Transport Commission
GIS	geographic information system
GloBEIS3	Global Biosphere Emissions and Interactions System Version 3
GPS	global positioning system
HAPs	hazardous air pollutants
HC	hazard coefficient
HC	hydrocarbon
HDDV	heavy-duty diesel vehicle
Hg	mercury
HRV	heart rate variability
I/M	inspection and maintenance
ICP-MS	inductively coupled plasma-mass spectrometry
IDL	instrument detection limits
IMECA	Indice Metropolitano de Calidad del Aire (Air Quality Metropolitan Index)
IMIP	Instituto Mexicano de Investigación y Planeación
INE	Instituto Nacional de Ecología (National Institute of Ecology)
INEGI	Instituto Nacional de Estadística, Geografía e Informática
IRIS	Integrated Risk Information System
ITESM	Instituto Tecnológico y de Estudios Superiores de Monterrey
K	potassium
kV	kilovolts
LDGV	light-duty gas vehicles
LGEEPA	Ley General del Equilibrio Ecológico y la Protección al Ambiente (General Law of Ecological Balance and Environmental Protection)
LIDAR	Light Detection and Ranging System
LPG	liquefied petroleum gas
MDA	multivariate data analysis
Mg	megagrams
MLR	multilinear regression
MMA	Monterrey Metropolitan Area
MS	mass spectrometry
NAAQS	National Ambient Air Quality Standards
NaCl	sodium chloride
NAFTA	North American Free Trade Agreement
NEI	Mexico National Emissions Inventory
ng/m ³	nanograms per cubic meter
NH ₃	ammonia
NIST	National Institutes of Standards and Technology

nm	nanometers
NMED	New Mexico Environment Department
NOM	Norma Oficial Mexicana
NO _x	nitrogen oxides
O ₃	ozone
PAHs	polycyclic aromatic hydrocarbons
Pb	lead
PCA	principal component analysis
PCR	principal component regression
PdNARP	Paso del Norte Air Research Program
Pemex	Petróleos Mexicanos
PIXE	particle induced X-ray emission
PLS	partial least squares
PM	particulate matter
{PM} ²	peri-metropolitan particulate matter episodes
PM ₁₀	PM measuring 10 micrometers or less in aerodynamic diameter
PM _{2.5}	PM measuring 2.5 micrometers or less in aerodynamic diameter
PMF	positive matrix factorization
PNAHs	polynuclear aromatic hydrocarbons
ppm	parts per million
PROFEPA	Procuraduría Federal de Protección al Ambiente (Federal Attorney General for Environmental Protection)
QA/QC	quality assurance/quality control
QF	quartz fiber
RETC	Registro de Emisiones y Transferencia de Contaminantes (Pollutant Releases and Transfers Register)
RSD	remote sensing device
SCERP	Southwest Consortium for Environmental Research and Policy
SCOS97-NARSTO	1997 Southern California Ozone Study-North American Research Strategy for Tropospheric Ozone
SEAs	state environmental agencies
SEM	scanning electron microscopy
SEMARNAT	Secretaría de Medio Ambiente y Recursos Naturales
SENER	Secretaría de Energía (Secretariat of Energy)
Si	silicon
SNOKE	Sparse Matrix Operator Kernel Emissions modeling system
SO _x	sulfur oxides
STP	standard temperature and pressure
SX	solvent extraction

TAC	Technical Advisory Committee
TACB	Texas Air Control Board
TCEQ	Texas Commission on Environmental Quality
TCLP	Toxicity Characteristic Leaching Procedure
TD	thermal desorption
TD-GC/MS	thermal desorption-gas chromatography/mass spectrometry
TEM	transmission electron microscopy
TEOM	tapered element oscillating microbalance
THC	total hydrocarbon
Ti	titanium
TNRCC	Texas Natural Resource Conservation Commission
TOG	total organic gases
TSP	total suspended particulates
UNMIX	Named for its function, which is to “unmix” the concentrations of chemical species measured in the ambient air to arrive at the magnitudes of the underlying sources
UTEP	University of Texas at El Paso
VIFs	variance inflation factors
VKT	vehicle kilometers traveled
VOCs	volatile organic compounds
WEG	wind erodibility groups
WGA	Western Governors’ Association
WRAP	Western Regional Air Partnership
XRF	x-ray fluorescence